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ORIGINAL ARTICLES.

FACTS SERVING TO PROVE THE CONTAGIOUSNESS OF TUBERCULOSIS; WITH RESULTS OF EXPERIMENTS WITH GERM TRAPS USED IN DETECTING TUBERCLE-BACILLI IN THE AIR OF PLACES OF PUBLIC RESORT.[1]

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It is in accord with the spirit of the age to attempt to get at the root of all things affecting the health of our race. The causes of tuberculosis and the influences modifying the progress of the malady claim not only the active interest of those engaged in the field of scientific medical investigation, but the attention of every mind that fully appreciates the universal prevalence and immense mortality resulting from the scourge consumption. It may add somewhat to the interest, if not to the elucidation, of this subject to trace the progress of thought springing from the observation of clinicians of all ages. By collecting the expressions of the *master-workmen* of different times, we will see that knowledge upon the subject has been steadily progressive, and that what now seem to be proven facts have been preceded by flashes of truth in almost every epoch of medical history. The discovery of the tubercle-bacillus was not drawn from the inspiration of genius, but from the shaping of clinical facts gathered in the progress of our art, from the time of the father of medicine until the day that Koch discovered a peculiar microbe in tuberculous patients.

The word tubercle was used by Hippocrates,[2] but he applied it principally to designate small external tumors—phymatæ—as, hordeolum, furunculus, sycosis, anthrax, wheals, etc. It is said that the word was used by Celsus, about A.D. 20, but no special meaning was attached to it by him.

Franciscus Delebœ Sylvius, who lived between 1614 and 1672, was not only a strong advocate of the doctrines of Hippocrates, but also did much to advance the knowledge of this disease. He was the first to use the word tubercle in designating the hard nodules found in the lungs of the phthisical. He was also the first to speak of the formation of cavities and destruction of the lung tissue by the softening and breaking down of these hard masses. He describes three kinds of consumption—one of the blood; one of the lungs, occasioned by bad nutrition; and one of degenerated glands. Through this latter proposition he may be regarded as the originator of the theory of a relationship between consumption and scrofulosis. "He believed that in the predisposed the disease may be excited by contagion."[1]

As a result of autopsies made by Willis, and also by Bonetus, about from 1640 to 1670, the subject of phthisis was very much advanced.

When Richard Morton's[2] celebrated work appeared, the opinions set forth therein were not only greatly in advance of those of his own time, but were destined to supplant all others, and to be accepted as correct for more than one hundred years after his death. He asserted that all consumption originated through tubercles, and that they gave rise to the dry cough. The idea entertained by Hippocrates, that consumption was due to inflammation and ulceration, he strongly opposed. He also declared that he believed the disease to be propagated by infection. "For," said he, "this distemper—as I have observed by frequent experience—like a contagious fever, does infect those that lie with the sick person with a certain taint." (p. 67.)

Desault[3] also insisted that tubercles were the essence of consumption, and that ulceration of the lungs and hæmoptysis were the result of the deposit. He believed in the contagiousness of the disease when ulceration had occurred. A statement, which at this day seems to have been almost prophetic, occurs in his writing upon tuberculosis: "Worms," he declares, occasioned by the putrefying lungs, "propagate the disease and cause it to spread."

From the time of Morton to 1793, the subject of tuberculosis commanded the attention of some of the most distinguished men in medicine (Sydenham, F. Hoffman, Boerhaave, Van Swieten, Sauvages, Morgagni, Cullin, Hufeland, Portal,

[1] Read before the College of Physicians of Philadelphia, February 4, 1885.

[2] "The Genuine Works of Hippocrates." Published by the Sydenham Society. London, 1849.

[1] Quoted in "A Practical and Historical Treatise of Consumptive Diseases." By Thos. Young, M.D. 1815. p. 178.

[2] "Phthisiologia, or a Treatise of Consumption." 2d Ed. London, 1694.

[3] Quoted by Thomas Young, M.D. Loc. cit.

Stark, Ruysch, Stahl, Reid, and Baumé). At this time Baillie's great work appeared,[1] in which he demonstrated the existence of tubercles in other organs besides the lungs.

Bayle,[2] an independent worker as well as thinker, insisted most strenuously that phthisis is a general chronic disease, and owes its origin to a special principle — the tuberculous. He, too, denied most positively the teachings of Hippocrates, that consumption was due to inflammation and ulceration. To him is due the credit of discovering what is now known as miliary tuberculosis. "Out of 900 autopsies performed by him, he found 624 had tubercular phthisis, 185 the granular or miliary tubercle, 72 melanotic, 14 ulcerous, 4 the calculous, and 3 the cancerous." He says further: "This disease appears always to depend on a peculiarity of constitution. Hæmoptysis is a frequent symptom of consumption, and is sometimes mistaken for its cause; but it often happens that when hæmoptysis has been fatal, the lungs are found full of tubercles."

Laennec, who followed Bayle, declared that all consumptions, including scrofulosis, were nothing but the consequences of the tuberculous specific principle, which might be inherited or be acquired. In demonstrating his theory he made use of auscultation, which it is said he originated, in accurately determining the diseased condition of the lungs. Laennec's views in regard to the pathology of consumption, notwithstanding he had very strong opponents among his colleagues, were held for a long time. Schönlein, in the main, held with Laennec, but differed most positively with him in making a marked distinction between tuberculosis and scrofulosis. At this time scores of eminent investigators were busy with this subject, and the confusion of ideas that then existed occasioned the promulgation of many widely divergent theories; thus were described tuberculization of pus, tuberculous pus, gray tubercle, yellow tubercle, gray infiltration, tubercle granules, tubercle corpuscles, granulosis, albuminous tubercle, etc. Indeed, the number of forms assumed by this disease was limited only by the number of writers upon it. This tended to give to the simplicity of the theories advanced by Laennec a great attraction to many, who held to them for sheer comfort of mind. Out of this dire confusion a way was opened by Virchow, whose cellular pathology gave us a positive science by which the theories of previous writers were exploded.

In the early part of 1882, Dr. Robert Koch made his name immortal by giving to the world the result of the researches and experiments[3] by which he swept away all false ideas that had existed in regard to tuberculosis for a period of over two thousand years. It was then that he made the announcement that "Tuberculosis is a specific, infectious disease, caused by a specific micro-organism — the bacillus tuberculosis — which constitutes, in fact, the true tubercle virus." This statement is one of the most remarkable, in its import, in the history of medicine.

Koch reached this position by the results obtained from experiments made with the tubercle-bacilli which he had artificially cultivated. He prepared a nutritive substance, and introduced into it a speck of pus taken from a tuberculous human lung. In this way he obtained a number of bacilli, with which he infected fresh material, and by frequent repetition of this process, which he carried on for many months, he succeeded in obtaining bacilli very many generations removed from those taken from the diseased lung. These cultivated bacilli were introduced into the circulation of healthy animals, and in every instance induced tuberculosis. Tubercles in large numbers were found in the lungs, liver, and spleen of all the animals thus experimented upon.

The labors of the illustrious Pasteur, of France, and of Koch, of Germany, are now well known to us all. They are the leaders of a host of equally zealous investigators, who have acquired more or less distinction through their efforts in this direction.

Villemin,[1] Buhl,[2] Bollinger,[3] Fraenztel,[4] Balmer,[5] Ruhle of Bonn,[6] Lichtheim,[7] the late Prof. Cohnheim,[8] Gaffky,[9] Ewald,[10] Ehrlich,[11] Kowalski,[12] Wilson Fox,[13] Cheyne,[14] Shakespeare,[15] Sternberg,[16] Ernst,[17] Colin,[18] Tappeiner,[19] Williams,[20] and others, who form a legion of self-sacrificing, earnest, and conscientious workers, banded together in the interests of science and of their fellow-men, and inspired by the hope of being able at some future day to stay the progress of a malady which has been the occasion of more deaths than all the epidemics of disease, and all the disasters by land and sea, not only command the attention and support of the scientific world, but also the gratitude of every intelligent human being.

With a rapid but steady pace those observers are advancing on the road which will soon lead to the desired goal. The clouds of error are being dissipated by newly discovered truths, and to-day the subject of tubercular phthisis is bet-

1 "Morbid Anatomy," London, 1793.
2 "Recherches sur la Phthisis," Paris, 1810, p. 66. Quoted by Dr. Young. Loc. cit., p. 452.
3 "Die Etiologie der Tuberculose." Berliner klin. Wochenschrift, 1882, No. 15

1 Gazette Méd. de Paris, Dec., 1865. Also "Études de la Tuberculose," Paris, 1868.
2 "Lungenentzuendung, Tuberculose und Schwindsucht." 1873.
3 Archiv f. experim. Pathologie, Bd. 1. 1873. Also N. Y. Med. Record, March, 1884.
4 Berliner klin. Wochenschrift, 1882, No. 45.
5 Ibid.
6 Medical Record, New York, May, 1883.
7 Ibid.
8 "Consumption as a Contagious Disease," London, 1880. Translated by H. D. Cullimore.
9 Report of the Imperial Health Office, Berlin, 1884. See Review of Amer. Jour. of the Med. Sci., July, 1884.
10 Med. News, Phila., Sept. 6th, 1884, p. 275.
11 Deutsche med. Wochenschrift, No. 19, 1882.
12 Wiener medizinische Presse, Feb. 24, 1883.
13 Med. Times and Gazette, London, 1883, vol. II, p. 672.
14 Practitioner, London, 1883, vol xxx.
15 Proceedings of the Phila. Co. Med. Society, 1884, pp. 315, 320.
16 Medical Record, New York, Oct., 1884.
17 Amer. Jour. of the Med. Sci., Oct., 1884.
18 Med. Centralblatt, 1873, No. 30.
19 Virchow's Archiv, Bd. 82, 1880.
20 The Lancet, London, Feb. 24 and July 28, 1883.

ter understood than ever before. It is my purpose this evening to bring to the notice of the fellows of the college some facts by which, I think, the contagiousness of tuberculosis is clearly demonstrated.

Careful researches by De Quatrefages,[1] Cook,[2] Livingston,[3] Rush,[4] Budd,[5] and others, seem to prove that tuberculosis first appeared among the inhabitants of Europe, and gradually manifested itself in those parts of the world with which they had intercourse. If this is true, it is one of the best evidences of the contagiousness of phthisis.

A contagious or infectious disease can have but one cause, and this is eminently true of tuberculosis, which does not arise from a variety of causes, but is solely due to the tubercle-bacillus. Wherever this bacillus finds its proper nidus it will there develop and multiply; and, if this should be in living animals or human beings, the progress of the disease will be determined by the character and amount of food offered for the growth of this germ; thus with a nidus rich and plentiful we may have a case of acute phthisis lasting not more than thirteen days[6]; and, on the other hand, if the pabulum is poor and scant, the case may be a chronic one extending over a period of twenty-five years, such a case having occurred in my own practice.

The bacilli may enter the system through the lungs or by the stomach. The air we breathe, as well as the food we take, especially in the vicinity of the phthisical, may be laden with these germs. The air of the ventilating flues at the Brompton Hospital, when carefully examined, was found to contain tubercle bacilli in fair abundance.[7] The sputa of tuberculous patients drying upon our streets is ground into an impalpable powder by the feet of pedestrians, and is then disseminated through the air to be inhaled alike by the healthy as well as those predisposed to tuberculosis. Such sputa, mixed with the dirt of the street, have been collected, dried and powdered again, at frequent intervals during a period of several months. Guinea-pigs were then inoculated with this matter and in a short time the animals thus treated died from tuberculosis.[8]

To admit that the tubercle-bacillus is a pathological product is to express a belief in spontaneous generation,[9] and I feel sure that none of my enlightened hearers are prepared to subscribe to that doctrine.

It is asserted by some pathologists, that other matter or irritant than the tubercle-bacillus is capable of producing the disease. This idea is not a new one, for Richard Morton says: "Chalky stones that are preternaturally bred in the lungs, or nails and other hard bodies slipping down into the lungs when persons laugh, are to be recorded among the causes of a consumption of the lungs;"[1] and he narrates a case, p. 247.

It is also claimed by a number of writers that certain callings or occupations may be a cause of tuberculosis, owing to fine particles of dust inhaled by those employed. Thus coal miners, dry grinders, stone cutters, moulders, operatives in cotton and woollen mills, etc., are apt to have the disease. But those who believed that the dust breathed by individuals engaged in these occupations might occasion phthisis were evidently oblivious of the fact that the air carried, in the form of germs, far more potent factors; and that while the dust may have produced an irritation of the air passages, the presence of the tubercle-bacilli was essential to the production of the disease. The inhalation of irritants, or lowered vitality, occasioned by certain occupations, may cause the predisposition, but they are never the cause of the disease *per se.*

Not all the predisposing causes united could in any instance induce tuberculosis without the advent of the tubercle-bacillus. That something more is needed was admitted by Pollock twenty years ago, when he declared that there must be "some subtle agent to precipitate, concentrate, and shape these elements of disease into tubercle."[2] And Da Costa says, "whatever it be, is something special."[3]

Experiments have demonstrated, beyond doubt, that it is impossible to induce true tuberculosis in any case where proper precautions have been taken to remove from the irritant used all living germs. This is now accepted as a fact by many of those who once held a contrary opinion. Wilson Fox, Cheyne, Sternberg, and others, who performed these experiments under the conditions mentioned, have acknowledged that under such circumstances it was impossible to produce the disease.

Objections are also made to the fact that these bacilli are the cause of tubercle, because they were not found in all the cases of tuberculosis examined by certain investigators. It is fair to presume that in these instances they must have escaped detection, since bacilli have been found in every case of tuberculosis examined by careful observers.

Many instances are recorded in which foreign bodies have been carried into the lungs by gunshot wounds or otherwise, without occasioning much disturbance in the parts, or seriously affecting the health.

Rush,[4] with his experience of the revolutionary war, declared that he had never known a case of phthisis to result from wounds in the lungs, and

1 "The Human Species," by A. De Quatrefages, N. Y., 1883; pp 428, 430.
2 Ibid.
3 Ibid.
4 "Medical Inquiries and Observations," Philadelphia, 1789; p. 137.
5 The Lancet. London, 1867. Vol. II, pp. 451, 452.
6 "Medical Diagnosis," by J. M. Da Costa, M.D., LL.D. 6th Ed. Philadelphia, 1884, p. 320.
7 The Lancet. London, July 28, 1883.
8 "Med. and Surg. Reporter," Philadelphia, 1884, vol. I, p. 697.
9 "Floating-matter of the Air." By John Tyndall, M.D. New York, 1882, pp. 277, 320.

1 Loc. cit., p. 67.
2 The Elements of Prognosis in Consumption. London, 1865, p. 337.
3 Phila. Med. Times, June 19, 1880.
4 Medical Inquiries and Observations, Phila., 1805, Vol. II, pp. 72, 73.

this observation was supported by the Surgeon General of the Royal Army.[1]

A number of cases of gunshot wounds of the lungs occurred during the late war, but, as far as known, they were not the occasion of any death by phthisis.[2]

I am free to admit that, in cases where a predisposition exists, it may be still further developed by the presence of an irritant, just as a furuncle in one individual may be harmless, and in another the starting point of a cancer. The late General Baxter,[3] of this city, received a wound in the lungs on the 6th of May, 1864, and was more or less actively engaged in his duties until twelve years afterward, when, during a fit of coughing, he ejected what appeared to be a hardened bit of pus. This, upon examination, proved to be the envelope of a small piece of coarse, red cloth, half an inch in diameter (such as is used for the stiffening and padding of coats), which had been carried into his lungs at the time he received the wound in 1864. During all this interval there had been a constant suppuration of the lungs, occasioning considerable discomfort, but not sufficient to render him unable to fill several important positions demanding his careful attention. Three years after expelling the foreign body (seventeen years from the time he received the wound) he died, it is said, from phthisis. In this instance, admitting that he died from phthisis, a predisposition to the disease was evidently established by a greatly lowered vitality, occasioned by the long-continued suppuration. For twelve years he lived without a sign of phthisis; but after he had rid his lungs of the original irritant the bacillus tuberculosis found its way to the rich soil so long prepared for its reception, and there multiplied until the life of the individual was ended.

So certain diseases, occasioning an irritation or a lowered vitality of the pulmonary mucous membrane, have the reputation of being the indirect causes of tuberculosis. Measles, especially when occurring in children of phthisical parents, are liable to have consumption as a sequel. The mucous membranes are implicated in this disease, probably more so than in any of the eruptive fevers; the epithelium is cast off, and the denuded membrane exposed to the direct contact of the tubercle bacillus.

It has been satisfactorily demonstrated that tuberculosis may be caused by inoculation in the human subject. Laennec, while examining a vertebra containing tubercle, slightly wounded one of his fingers with the saw blade. In the site of this wound a small, rounded tumor subsequently appeared, which, upon investigation, exhibited all the physical characters of a tubercle. It was destroyed by the application of an escharotic, and no bad effects resulted from it.[1]

Another instance was that of a fisherman free from tuberculosis, but suffering from gangrene of the toe, who was purposely inoculated. Thirty-seven days after the experiment he died, and the autopsy revealed a tuberculous deposit in the lungs and liver.[2]

But the most satisfactory evidence of the effects of inoculation of tubercle is that presented in the case recorded by Dr. E. A. Tscherning.[3] The subject, employed as cook in the family of Prof. H., was a perfectly healthy woman, about twenty-four years of age, with a history unexceptionally free from any hereditary taint of scrofulous or tuberculous affections. After a short illness the Professor died of phthisis. The cook unfortunately broke the glass sputum-cup used by her employer, and a spicula from it punctured one of her fingers. Fourteen days afterward there appeared at this point what seemed to be a felon. This was treated at Prof. Studgaard's clinic, and at the end of a few weeks the finger was much better. A little nodule, however, about half as large as a pea, was found to exist in the subcutaneous connective tissue, which after a while became tender and œdematous. This was now cut out, and the wound healed readily. About three months from the time of the accident Prof. Studgaard found that the sheath of the tendon was thickened, and two cubital and two axillary glands were enlarged. He disarticulated the middle finger, and the tendon, with its thickened sheath, as well as the enlarged glands at elbow and axilla, were dissected away. Upon examination the sheath of the tendon was found to be filled with pale granulations. Sections of the sheath and of the extirpated glands were subsequently subjected to microscopic investigation, and numerous tubercle-bacilli found in them, which positively established the peculiar character of the affection.

Dr. Tscherning has observed upwards of thirty cases of localized tuberculosis, and in each instance the microscopical appearances were the same as in this case.

Many eminent men, by their constant attendance upon the phthisical, and by their close and frequent study of the *post-mortem* conditions of their cases, have been made victims to the disease themselves. Among those who have met death in this way may be mentioned Bayle, Laennec, Delaburg, Dance, Young-Thomas; and many other names could be added.

Much stress has been laid upon heredity as being one of the chief causes of the vast mortality from this disease. It is my belief that phthisis is never transmitted from parent to child; it is simply a predisposition that is inherited. By predisposition I mean a greatly lessened power of

[1] That the excretion of these bacilli might prove to be the *materies morbi*, was suggested by me some time ago; and this opinion is also entertained by Dr. G. M. Sternberg, U.S.A., who subsequently made the same suggestion in the Med. Record, N. Y., Oct. 25, 1884.

Med. and Surg. Hist. of the War. Second issue, 1875, Part I, Surg. Vol., pp. 478, 481.

The Daily Evening Telegraph, Philadelphia, May 10, 1881.

[1] Diseases of the Chest. Translated by J. Forbes, M.D. London, 1834, p. 305.

[2] Gazette Med., 1872, p. 192. Quoted in Biennial Retrospect of Med. and Surg., 1871-2, p. 38.

[3] Hospitals-Tidende, Copenhagen, Dec. 17, 1884.

resistance in the tissues, especially in the lymphatic system. If tuberculosis was inherited we might expect to find some indications of this in the fœtus, but the observations of Guizot,[1] Gluge,[2] Heller,[3] and Virchow[4] have shown that this is not the case. In 1300 fœtuses examined by Heller there was no evidence of a tuberculous taint in any one of them, notwithstanding the fact that in one instance the patient died of phthisis with the fœtus *in utero*. Virchow, with his experience of more than fifty years, says: "He had not seen a single case of direct transfer in the fœtus." This also holds true in regard to the offspring of animals which have been under observation while suffering from tuberculosis; there is no instance on record in which they have exhibited a trace of the disease.[5]

The presence of the disease in infants is undoubtedly due to the bacillus, or its spores, contained in the milk of the phthisical mother, or in the air it is constantly obliged to breathe.[6] In other words, the disease is not transmitted, but it is acquired. I have elsewhere shown the fallacy of the hereditary transmission of the disease.[7]

There are but few insurance companies that will accept as a risk any one whose family history is not clear of tuberculosis; hence it would seem that such careful exclusion would remove all questions of hereditary transmission in those losses which they may sustain by deaths from phthisis. One of the most conscientious companies in this respect is The Mutual Life Insurance Company, of New York. It is especially careful in excluding such risks, and will not only refuse to accept an applicant who has a phthisical history, howsoever remote, but will not regard an application in which there is the least evidence of a predisposition to the disease, no matter what the age of the applicant may be. Notwithstanding the exercise of an unusual amount of vigilance, they are nevertheless obliged to declare that "Consumption has been the occasion of more deaths than any other disease, giving a per centage of $17\frac{61}{100}$ of the total mortality; while deaths recorded under other headings, but properly belonging to this, would swell the number to 20 per cent."[8] Here, then, is a freedom from a hereditary taint as far as rigid examinations are capable of determining it. Under such circumstances the rate of mortality is surprising, to those, at least, who have faith in the hereditary transmission of the disease. A few years previous to that in which this report was made, the death rate from consumption in the adult male population of New York city was $30\frac{11}{100}$ per cent. This is but little over 13 per cent. of the deaths among those who were considered especially exempt from the disease.

It would be impossible to enumerate the so-called causes of tuberculosis. The disease has been attributed to every imaginable influence which could occasion a morbid condition of the system. This error is readily accounted for when it is understood that any influence which will bring about a lowered vitality of the body will induce a predisposition to the disease, which is established by the presence of the bacillus tuberculosis.

AGE.—In looking over "health reports" and other statistics I have been surprised at finding records relating to the time of life when tuberculosis is most prevalent, which are entirely at variance with the ideas entertained by many practitioners. It is very generally believed that at the age of puberty, especially in those supposed to possess hereditary taint, phthisis is most apt to manifest itself, and that the liability to contract the disease is lessened with advancing years. It seems, however, that this is not the case, for in early childhood and at puberty the mortality is less than at any other period of life. There is reason for believing that the best way to determine the time of life at which the disease is most fatal is to compare the death rate occasioned by it at certain periods of life with the number of living persons at the same age. This has been done by several reliable persons, including Mr. Edgar Holden,[1] and I will read to you an interesting table prepared by A. Wuerzberg, the librarian of the Imperial Health Office at Berlin, Prussia.[2] This table is as follows:

Of 10,000 individuals aged 0–1 year there die annually of consumption $25\frac{45}{100}$.
Of 10,000 individuals aged 1–2 years there die annually of consumption $20\frac{41}{100}$.
Of 10,000 individuals aged 5–10 years there die annually of consumption $4\frac{68}{100}$.
Of 10,000 individuals aged 15–20 years there die annually of consumption $18\frac{87}{100}$.
Of 10,000 individuals aged 20–25 years there die annually of consumption $30\frac{84}{100}$.
Of 10,000 individuals aged 25–30 years there die annually of consumption $36\frac{78}{100}$.
Of 10,000 individuals aged 30–40 years there die annually of consumption $41\frac{18}{100}$.
Of 10,000 individuals aged 50–60 years there die annually of consumption $67\frac{94}{100}$.
Of 10,000 individuals aged 60–70 years there die annually of consumption $93\frac{18}{100}$.
Of 10,000 individuals aged 70–80 years there die annually of consumption $61\frac{72}{100}$.
Of 10,000 individuals aged over 80 years there die annually of consumption $25\frac{80}{100}$.

This table goes to show that at the two extremes of life, where vitality is at the lowest, thus lessening the power of resistance, the disease is most fatal.

It must not be forgotten that among the many causes which lead to a predisposition to tuberculosis, conditions of mental depression play an active part. Bad habits, or immoral conduct,

1 Quoted by Dr. Durant. Trans. of the N. Y. State Med. Soc., 1878, p. 174.
2 Ibid.
3 Medical News, Phila., 1884, p. 302.
4 Ibid.
5 Practitioner, London, Vol. XXX, 1883, p. 318.
6 British Med. Jour., 1879, Vol. XI, p. 619.
7 "Reasons for Believing in the Contagiousness of Phthisis," Read before the Philadelphia County Med. Society, June 11, 1884.
8 Preliminary Report of the Mortality Experience of The Mutual Life Insurance Company, of New York. New York, 1875, p. 12.

1 The Medical Record, New York, July 12, 1884.
2 Amer Jour. of the Med. Sci., July, 1884, p. 192.

which lead to bitter regrets; or domestic infelicity, occasioning long-continued fret and worry, will produce a depression of this character more or less marked. A case recently came under my notice in which the patient's health was first affected by the unfortunate condition of his domestic affairs; they were the occasion of continued anxiety and worriment for several years, and finally brought him into a condition of nervous exhaustion. This was soon followed by the signs of phthisis, and he died about six months afterwards. In this case the predisposition was certainly due to a lowered vitality, induced by long-continued mental depression, aided somewhat by the patient's occupation, which was that of a bookkeeper. There was no hereditary tendency to the disease, and had he been more fortunate in his domestic relations he might still be living.

The following interesting cases, which I have personally investigated, will go to support some of the assertions I have made in my paper:

Case 1.—J. E., an invalid, was married; twelve months afterward his wife gave birth to a child, and in the following month the father died of phthisis. At the age of five months the child died of marasmus, and in sixteen months after her accouchement the wife died of phthisis. She was of a healthy and long-lived family, but had occupied the same room with her husband during his illness.

Case 2.—S. Y. was a healthy young man, who married a lady that was physically below par. About a year after marriage she gave birth to a child, and from this period onward she declined in health, and ultimately died of phthisis five years afterward. Eighteen months prior to her death her husband exhibited symptoms of tubercular laryngitis, and died of consumption four weeks before his wife. In this case I ascertained that the wife had come from a tuberculous family (her parents and five sisters having died from the disease), while in the husband's family there was not a trace of tuberculosis, his parents living far beyond the allotted threescore and ten, and his brothers and sisters in the full enjoyment of health. This gentleman, who was greatly devoted to his wife, had been constant in his attendance upon her, and had slept in the same room.

Case 3.—I. R., a young man, aged twenty-seven years, of very temperate and regular habits, who presented no family history of tuberculosis, and whose constitution and general health were excellent, married a young lady of delicate health, in whose family consumption had caused the death of father, mother, and three sisters. The occupation of the young man was that of ticket agent in a railroad office. About three and a half years after his marriage he became ill, and a year after the commencement of his illness died of phthisis. Two years and a half subsequent to his death his wife died of the same disease.

In the first case narrated to you the healthy, robust bride certainly contracted the disease from her husband. In the second case the young man, with an excellent family history, and in good health at the time of his marriage, not only contracted the disease from his phthisical wife, but died of it four weeks before she did. In the third case we have a healthy and vigorous young man, with an excellent family history, marrying a phthisical girl from a phthisical family, and what is the result? Through his close companionship with his consumptive wife he contracts the disease, which occasions his death two and a half years before his wife succumbs to the malady.

I might add to this list a number of similar cases, were it necessary to do so, for I have the notes of many which prove conclusively the contagiousness of phthisis. Indeed, any one can lay his hands upon recorded cases without number which would convert even the most sceptical to this belief.

No one, not even the non-contagionists, can declare that the cases I have narrated are simply "coincidences." The experience of medical men, especially of those who are engaged in the treatment of lung disorders, must be similar to my own, and I cannot see how there can be a question in their minds in regard to the contagiousness of phthisis.

If the most convincing proof of the truth of a comprehensive theory lies in its power of absorbing and finding a place for new facts, and its capability of interpreting phenomena which had previously been looked upon as unaccountable anomalies,[1] then I know of no theory more truthful than the one which I have advocated before you this evening. It will fully explain every phenomenon connected with this malady, the universal mortality it occasions in every part of the world, and why one member of a family after another, with no hereditary predisposition, has succumbed to its power.

It is a singular fact that in all the recorded cases where the disease has been occasioned by close association with the phthisical, as in nursing, it has been unusually rapid in its course, frequently carrying off those unfortunates during the lifetime of those from whom the disease was contracted.

And what does all this teach us? Simply this: that our real strength in battling with this terrible disorder lies not so much in medication as in the application of hygienic and sanitary laws.

Surgeon General von Lauer, of the Royal Prussian War Department, in a letter dated October 16th, 1884, kindly enclosed to me a copy of the instructions which he issued in regard to diseases of the lungs. They are of such importance that I quote them in full. It is also of interest to know that in Austria, where the bacillary origin of tuberculosis met with greater

[1] Contributions to the Theory of Natural Selection. By A. R. Wallace. London, 1870, p. 45.

opposition than anywhere else in Europe, the Government has recognized its infectious nature, and has issued official instructions similar to these of Surgeon General Von Lauer. The same precautionary measures should be adopted in the hospitals of our own country, and it is fair to assume that this will be done.

[Copy.]

DEPARTMENT OF WAR.

Berlin, Aug. 31st, 1882.

The various detailed reports which, in pursuance with request of Nov. 24th, 1881 (No. 157, H.M.M.A.), have reached this Department, have clearly shown that there exists no material difference of opinion regarding the reasons for the high annual sick and mortality rate from consumption during the time of active service.

The universally acknowledged causative relations will necessarily lead to still greater caution in the treatment and care of those exhibiting the earlier symptoms of chronic pulmonary disease, as well as those in whom a predisposition is suspected or clearly discernible. The prescribed regulations should therefore be borne in mind, in order that the number of consumptives in the army may thereby be diminished. The following instructions must always be carefully observed:

1. Although the predisposition to affections of the lungs cannot be objectively determined, and the time permitted the surgeon during the recruiting service often not extended enough to permit a careful and searching examination, to determine this question, the medical officer in charge is earnestly urged to consider the build, configuration, and exhaustibility of the thorax. In this connection he is to adhere closely to the instructions of April 8th, 1877, regarding the normal limitations. Shoemakers and tailors of delicate frame require very careful inspection of the chest organs.

When the circumstances attendant upon the recruiting service are not favorable to exact examination, special attention is to be paid to more rigid inquiry when the recruit reaches his regiment, as directed in Par. 13 of the instructions. Here it will be of value, in forming an opinion in your cases, to seek direct official information regarding family history or previous disease of the lungs or pleura.

But in order not to lose sight of those cases which have either been overlooked at the first inspection, or whose character could not then be ascertained, the recommendation of the various corps surgeons that, with the coöperation of the proper authorities, medical examinations should be repeatedly made at stated intervals, should be particularly borne in mind, with special attention directed to those in whom disease of the respiratory organs is suspected. Special records, carefully noting the condition of each examination, must be kept. The extent to which the weakly are to be spared the arduous work of training must be determined by the requirements of individual cases. The industrious use of douche baths, to harden the skin and accustom to exposure, naturally suggests itself here.

2. The attention of surgeons is directed to the fact that the instructions (Par. 5, Sec. 4, to Par. 7, Sec. 2) do not permit a judgment upon volunteers without considering their fitness for field service. Complete fitness, therefore, is indispensable to a declaration of efficiency.

3. For convalescents from acute disease of the respiratory organs, a prolonged period of after treatment and care is desirable. If the circumstances of the patient make home attention attainable, and only then, is a lengthy furlough to be recommended, Those returning from such furloughs are to be carefully reëxamined, and, if necessary, their transference to the appropriate health resort taken under advisement.

4. That the first symptoms of disease of the lungs may not be overlooked in making the round of the barracks, particular attention should be paid to apparently mild "catarrhs," utilizing, if necessary, evening temperature measurements. Doubtful cases should be transferred to hospital for observation.

5. The opinion of many medical officers, that prompt measures should be taken for the discharge of sufferers from chronic pulmonary disease, should not be forgotten. That even one attack of hæmorrhage (Bluthusten), if it is proven to be of undoubted pulmonary origin, is sufficient cause for discharge, and is especially emphasized. That the early dismissal of cases affording no probability of usefulness to the service removes a source of infection for hospital and barrack, must be viewed by no means the least important advantage of this provision.

Now that experimental pathology has furnished exact scientific corroboration of the theory of the infectiousness of phthisis, more importance than ever must be attached to the separation, both in hospital and barrack, of those afflicted with or suspected of phthisis, from other patients, especially from those suffering with inflammation of the lungs or recent bronchial catarrh. The sputum being the principal carrier of the disease germ, and consequently the principal source of infection, provision for its removal and disinfection (Unschädlichmachung) follows as a matter of course.

In answer to the question raised by this Department, as to whether new measures for the diminution of the number of cases of phthisis, with particular reference to the necessity for the establishment of climatic summer or winter stations for their treatment, were called for, the responses were unanimous against such establishment. The indications for them were considered uncertain, and the existing provision adequate for the present necessities of the army. The Department endorses this view, and is convinced that the careful observance of the general directions herewith transmitted will be of interest and service to the army as well as to the patient. Although tedious attempts at cure by long-continued stay at climatic stations may be considered of doubtful value to the phthisical patient, and not at all likely to furnish the army with a soldier fit for field service, the prompt despatch of a convalescent from an acute non-phthisical affection of the respiratory apparatus to an appropriate station, is warmly to be commended. Such station, from among those at the disposal of the Department, is to be carefully selected, and treatment conscientiously carried out.

This communication, with five copies, is transmitted to you, with the request that you submit your views to the General Commanding, and instruct the sanitary officers of the corps to be guided thereby.

[Signed] V. Lauer-Strube,
Department of War, Army Medical Division.

To all Royal Corps Surgeons, No. 230, 4, 82, M. M. A.; 64, 9–84, M. M. A.

Like other disease germs the tubercle-bacilli are carried by the air, and will, of course, be found to be more plentiful in the vicinity of the victims of tuberculosis. A single bacillus may as surely induce the disease as the presence of a great number; and since we are at no time free from the chance of inhaling this germ, our safety lies in avoiding a "predisposition" to lung troubles. In order to determine whether the bacilli might be readily found in the air of the street, or of places of public resort, I had constructed the instruments which I now explain.

The first apparatus I had made was after the plan of the ordinary inhaler. The long tube passed into a little well at the bottom of the bottle containing glycerine, which was intended to retain any germs carried by the air passing through it; by rotating the bottle its sides were also smeared with glycerine, to give a still larger surface of glycerine for the contact of the air which, after entering the funnel, was forced

through the apparatus by using the pump. This was undoubtedly an effective germ trap, but the impossibility of drying the glycerine, which it was necessary to do in order to obtain microscopic proof of the presence of bacilli, obliged me to devise another method of obtaining them.

The second trap consisted of a brass cylinder containing a series of snugly fitted steel discs. Each disc was perforated in such a manner that, when placed together, the openings formed a cone. Between each of these discs, across their openings, thin layers of pyroxylin were placed; the discs were then introduced into the cylinder, which was tightly fastened. To one end of the cylinder the pump connection was affixed, and the other end was connected with the funnel, which was placed over the ventilating flue, to take the air. When the pump was put in motion it drew the air through the apparatus and necessarily through the veils of pyroxylin held in position by the metal discs, the pyroxylin thus serving to intercept the passage of any germs.

With this apparatus I visited a number of places of public resort, and through the courtesy of those in authority I was given free access to the parts of the establishments wherein the exit flues were located. These flues, in all instances except one, were placed in the ceiling of the auditorium and directly over the audience. Here I placed the funnel-shaped extremity of the apparatus, and its pump was kept continuously in motion until fifteen or twenty minutes after the audience had retired. This experiment was repeated a number of times at each establishment I visited. The trap was then dismantled; the thin layers or veils of pyroxylin were removed from between the steel discs and placed in the hands of Drs. E. O. Shakespeare and Morris Longstreth for microscopic examination. These skilful microscopists have made the following reports:

PHILADELPHIA, Feb. 3, 1885.

DEAR DOCTOR,—The specimens of pyroxylin (Nos. 1, 2, 3, and 4) which you sent me to examine microscopically for the presence or absence of tubercle-bacilli were variously treated. Nos. 1, 2, and 3 were separately dissolved in a mixture of absolute alcohol and strong ether. The collodion thus formed was handled in either of two ways: *a*. A thin film was deposited on a thin cover glass, such as is used in mounting of microscopic objects, and was stained in the manner recommended by Koch for the demonstration of tubercle-bacillus; or, *b*. The collodion was excessively diluted in a test-tube, by addition of relatively large quantities of alcohol and ether, and then allowed to stand for some hours, in order that suspended portions might fall to the bottom. The fluid was then carefully drawn off. The sediment at the bottom of the test-tube was mixed with a drop or two of sterilized beef-peptone-fluid, such as I keep in stock for bacteria-culture use, and was spread in a thin film upon a cover glass. This film was also treated in the manner above mentioned for the demonstration of the tubercle-bacilli. I had, however, considerable trouble in following these methods. There was great difficulty in decolorizing the film; many times this seemed quite impossible.

In these three specimens of pyroxylin I found no bacilli tuberculosis.

No. 4 I determined to treat in another manner. I employed two different methods: *a*. I took portions of the pyroxylin and stained it, as I would do sections of tissue in which I wished to seek for tubercle-bacilli, namely, in the manner recommended and practised by Koch, methyl-violet being the color used in the aniline oil mixture. These were subsequently mounted in balsam in the usual way without converting them into collodion. *b*. Other portions of the pyroxylin were stained with fuchsin as the color of the aniline oil mixture. After staining in the usual way, including the methyl blue as contrast color, the pyroxylin was placed on an object glass slide for the microscope and converted into collodion by using a mixture of ether and alcohol. As soon as it was dissolved a thin glass cover was placed over it. This latter method, in my hands, was by far the most satisfactory.

In the portion of pyroxylin prepared by the "*a*" method I found two objects which, by their size, shape, and color, had they been isolated and seen in sputum, I would have taken for tubercle-bacilli, but these objects were attached to fibres of pyroxylin, which, in spite of the successive action of weak nitric acid and of alcohol, and in spite of the subsequent use of Bismarck brown as a contrast color, were also tinted violet. This observation must, therefore, be classed as negative, or, at least, doubtful.

In the portion of pyroxylin treated by the latter method, "*b*," I found, after painstaking search, one bacillus, which, on account of its size, shape, and quite characteristic color (bright-red, the ground being blue), I had no doubt was a tubercle-bacillus. There were two other rod-like forms, which, in size and shape, appeared identical with tubercle-bacilli, but the color which they showed was so indistinct that it could not be safely made out. I have to report, then, the finding of one tubercle-bacillus in the specimen marked No. 4. There were, of course, numerous other objects in all the specimens examined, but as you wished only to know of the tubercle-bacillus, I have thought it needless to particularize concerning them. Yours very truly,

E. O. SHAKESPEARE.

TO DR. W. H. WEBB..

PHILADELPHIA, Feb. 4, 1885.

DEAR DOCTOR,— In compliance with your request, I inclose you the following report on the examination of pyroxylin from your germ-trap, in relation to the presence or absence of the bacillus of tuberculosis (Koch).

The material consisted of five small pledgets of cotton, contained in a small phial, sealed with paraffine,

The five portions were carefully kept apart, and examined separately.

The staining method employed was that recommended by Koch: Aniline oil and fuchsin, bleaching with dilute nitric acid, washing with dilute alcohol, contrast stain with methyl blue (in some slides), and washing finally in absolute alcohol. The only variation made in this method of mounting, as usually practised, was in using a dammar medium instead of Canada balsam, which I have employed since I have found that the dammar hardens more rapidly than the other. The examination of the specimens can be made with the oil-immersion lenses more promptly, without the risks involved in displacing the cover-glasses, should the oil come in contact with the mounting medium. It was found by a preliminary examination that four of the five specimens of cotton were not likely to furnish any number of bacilli, and the further search among these four specimens was consequently abandoned.

The fifth specimen, labeled No. 1, engaged the sole attention of further examination, as it was composed of the cotton which first met the current of air as drawn through the trap.

The cotton was very much discolored by dust and other matter, particles of which could easily be shaken off from it. Care, however, was observed so as to lose as little as possible of these adhering matters.

The staining, bleaching, and other steps in mounting, were carried out by first placing the cotton in a watch glass containing the aniline fuchsin stain, and allowing it to remain, tightly covered, for twelve hours. Portions of the

cotton were then thinly spread on a cover-glass, and the subsequent steps of the operation carried on in this position. It has been usual, I believe, in examining gun-cotton, to detect the presence of objects capable of being shown by a differential staining, to convert the cotton into collodion by admixture of ether and alcohol. This method I avoided, in the chief examinations, as being essentially faulty, since if the bacilli should be present in a dried film of collodion, it would be impossible for the staining agents to come in contact with the micro-organisms buried in the depth of the film.

Very considerable difficulties and much tedious searching were encountered in the microscopic examination, owing to interlacing and overlying arrangement of the cotton fibres. For although the strongest pressure was placed on the covers which the glass would stand—and many specimens were lost in this manner—nevertheless the depth of the material presented a field of much confusion. The confusion was somewhat lessened, but not removed, by adding another step to the process of mounting, viz.: by treating the cotton, after staining and bleaching, with a mixture of ether and alcohol, for the purpose of converting it into collodion. While this treatment dissolved the cotton fibres, still some fibres of flax and wool were left. It did not, of course, help the confusion due to large amounts of dirt particles which were present. It was hoped that by thus making a collodion of the gun-cotton, after the staining process was completed, some advantages might be obtained. Such, however, was not the case. The examination of six slides from specimen No. 1 gave the following results:

Slide *a*, 1 bacillus, 1 doubtful.
" *b*, 6 bacilli.
" *c*, 3 "
" *d*, 1 bacillus.
" *e*, none.
" *f*, uncertain.

It is not intended to convey the idea that these were the only bacilli present. A very careful examination might reveal the presence of more organisms. For the uncertainty of the examination excuse must be found in the nature of the materials dealt with; the impossibility of rendering the layer of material of uniform thickness, as can be readily done with sputa and with sections of tissue; the very large amount of dust particles scattered through a layer of considerable thickness; the facts, also, which I have not seen alluded to previously, that many fibres of cotton have in them clefts, which retain staining material in spite of bleaching; many of these clefts closely approach in length and breadth the figures of the bacillus; and, finally, the short time which I have been allowed for the work since the specimens were placed in my charge for examination.

Yours very truly,
MORRIS LONGSTRETH.

To DR. W. H. WEBB.

The layer or veil of pyroxylin through which the air from the flues first passed seems to have stopped the passage of all germs and other atoms, and in this way acted as a trap, to the exclusion of the other veils of pyroxylin placed between the discs for that purpose. Unfortunately, the portion submitted to Dr. Shakespeare for examination was not of the first layer, and to this may be attributed his inability to find more than one bacillus.

Furthermore, the number of bacilli found by Dr. Longstreth in the minute particle of the material he examined seems to indicate the presence of vast numbers of these germs in the entire layer removed from the trap.

And now, in conclusion, I desire it to be understood that I have spoken, not so much to maintain a proposition as to reveal the truth; and that in giving you the opinions of those who have beaten a path wherein we may the more easily travel, I have but done justice to a class of men equally endowed as ourselves to observe and to reason from cause to effect. I would also state that the aim of this paper is simply to emphasize facts, leaving you to deal with them as your wisdom may dictate. A careful analysis of the writings and investigations of those who have given special thought to the subject which I have treated, reveals the fact that since the time of Hippocrates there has been a gradual but steady progress toward the grand beacon which now illuminates our way. The very slowness of the advance, the suspicion with which the announcement of every new development has been received, and the earnest criticism to which they have been subjected insures the safety of our position to-day. Apart from the ocular demonstration of scientific investigations of modern times, and from a purely clinical standpoint alone, the weight of evidence as to the contagiousness of tuberculosis must certainly be appreciated by you all. Even those who do not acknowledge it in words, proclaim it by their manifestation of doubt, and quiet avowal that there is something lacking which will enable them to fix upon the cause of a disease maintaining such marked characteristics from age to age, and among all people.

We are living in a scientific age, and the medical profession is thoroughly imbued with its spirit and import. We deal with facts, and are little inclined to give heed to that which is purely speculative. Such superstitions as the "Royal Touch" belong to a departed age. "Coincidences" and "happened so's" serve no longer to answer our inquiries concerning the causes or nature of disease. Never before have we been so well established in respect to the means and methods of making research and experiments in the domain of medicine, and never before have the searchers after its truths been more earnest in their efforts or more hopeful of grand results. The discovery of the tubercle-bacillus is a scientific fact; all, with the same facilities, may see what others have seen. It is the one thing tangible, describable, known by its peculiarities among entities as readily as one individual is known from another. To doubt its existence in tuberculosis is to doubt the utility of scientific medical research, and to abandon further progress to the unstable dreams of theorists. The sputa of the phthisical contain these germs; the air they exhale is loaded with them or their spores, and their introduction into the system of animals will always produce tuberculosis, *while nothing else will*. These are not speculations, but demonstrable facts! Furthermore, clinical observations go to prove conclusively that healthy individuals, living in an atmosphere contaminated by the phthisical, will contract this disease, and not any other which might be due to a lowered vitality, from being in close quarters and breathing a vitiated air. That there is yet much

to be learned in regard to the tubercle-bacillus, there can be no doubt. Still, having made a wide breach in the walls that hemmed in the mystery of tuberculosis, it behooves us to press on to its complete solution.

I feel that I would be recreant to the cause I have espoused did I not avail myself of this opportunity to state that, in more than one instance, in articles recently published, the non-contagionists, it seems to me, have wilfully, unhesitatingly, and without warrant, perverted the language, even absolutely falsifying the statements, of authors they quote in support of their cause. That such reprehensible practices should be resorted to, for what must necessarily be but a momentary triumph, is of itself strong evidence of the vulnerability of their position, and requires no word of condemnation from me; nor would I think proper to notice it at this juncture, were it not to point out the necessity for all conscientious investigators to verify every and all citations by referring, wherever possible, to the original documents. And if my feeble efforts have, in the slightest degree, advanced the cause of truth and humanity, my labor has not been in vain. Now—

"Say as you think, and speak it from your souls."
"What you do
Still betters what is done."

A REALISTIC VIEW OF INEBRIETY.

BY T. D. CROTHERS, M.D.,

SUPERINTENDENT WALNUT LODGE, HARTFORD, CONN.

Some time ago a physician wrote condemning very earnestly an article of mine, in which I asserted that inebriety was always a disease, passing through varied fixed stages, that could be recognized and successfully treated. Also, that until this subject was taken up by physicians from the standpoint of exact science, no progress or practical results would follow. To him, these and other statements were infidel errors of the gravest character. My silence and refusal to enter into any controversy on this matter were construed as evidence of inability to sustain these statements, which stimulated him to read and publish a severe personal criticism, that he would gladly recall to-day. Soon after this, a member of his own family became an inebriate. The case in brief was as follows: A young man of weak nervous organization, with disordered nutrient taste, and without any special education or purpose in life, was sent to Europe to travel for his health and to enlarge his mind. He soon fell in with drinking companions, and remained away two years, drinking wine continuously and often to great excess. On his return, he seemed so well acquainted with wines, and their manufacture, that he was encouraged to go into a wine store. Three years later he failed, and the interests of a large circle of friends suffered greatly. He was a confirmed inebriate, and to-day is an incurable and heavy burden on his friends. The physician who doubted my views with generous frankness wrote me that he realized in a most painful way the mistake he had made in not recognizing the distinct chain of physical causes in this case, which he might have prevented or averted long ago; but, unfortunately, now it was too late.

Another similar case was that of a noted divine of New York, who for years has asserted very prominently "that inebriety could only be cured by making it odious and criminal to drink, and that the inebriate should be treated with severe punishment, rather than by mock sympathy as a sick man." A few years ago his son, an impulsive inebriate and professional man, was placed under my care. His father manifested great anxiety that no one should trust his will power, and that he should be kept under strict discipline. His son recovered, and was two years after well, and a strong temperance man. The father still preaches the same dogmatic notions of the vice of inebriety, and the power of the pledge and prayer, and the impression of dishonesty or incapacity to recognize the truth is prominent in the minds of all who know these facts.

Another instance, of a journalist whose writings have been noted as authority, but which, most unfortunately, have spread the greatest errors, may be of interest. His father died insane during his infancy. His mother was an invalid, and died of some brain trouble. He was brought up by a drinking uncle, was highly educated, and graduated as an Episcopal clergyman; after a few years changed and became an editor, drank moderately, and then to great excess, following a sunstroke. After this, distinct paroxysms of intoxication came on at intervals; sometimes they came on suddenly, at others they were preceded by a long prodroma of nervous disorder. Sometimes these attacks are concealed, and he will go away and shut himself in a strange hotel and drink for a week or more, then return sober and weak.

These drink paroxysms last from one to two weeks, and are marked by free intervals of five or six months. During this interval he both writes and lectures, bitterly condemning the disease theory, and urging that all inebriates should be punished, and that the vice of inebriety deserves no sympathy, but must be met with severe repressive laws.

His views are often so intemperate as to suggest a very close approach to insanity. To his friends and readers, who do not know him as an inebriate, these theories are often quoted as an authority.

Thus inebriety, as seen through the theory of moralists and speculative dogmas, is found to differ widely when studied practically at the bedside. A noted temperance lecturer was very

anxious to discuss with me the reality of vice, and a wicked, wilful propensity to drink in all cases that could be controlled. It was agreed to test it clinically by a study of the first case we should meet on the street that was available. The result of this experiment was the following, the lecturer making the first study separately and at his leisure, with these conclusions:

B., 64 years old. Has drank thirty years. Began to drink while working for a circus, and through the influence of bad company. Does not care for spirits, and can stop it of his own will power. Never drinks except when in bad company. If he had married a good wife and kept away from bad company, would have been sober. Is sure it is a vice, and thinks it a wicked sin. When recovering from intoxication has very clear notions of his sin and strong desires to be better; but later forgets it all and drinks again. The lecturer conceives this to be a case of vice that the pledge and conversion only can remove.

My study revealed this side of his history:

A strong presumption existed that his parents were both insane and criminal. He was brought up in an orphan asylum, and was a barkeeper and hostler in a hotel, up to an attack of brain fever, which came on after a fall. He went with a circus, and drank to intoxication whenever he could get spirits. Was in the army two years. Had a succession of social disasters, and was sent to jail for drunkenness. From this time his career was marked by steady degeneracy of both mind and body. He was clearly incompetent to control himself, or abstain, and was fast merging on imbecility. His views of his case were mere delusions which his whole life contradicted.

In all probability the brain fever produced some permanent impairment of an already feeble brain power, and gave an inebriate form to an inherited diathesis.

This was fostered by thirty years of more or less drinking, during which conditions of disease had begun that no art could reach, and no pledge or conversion would control.

The sequel of this was a good illustration of what is seen all over the country every day. This old man was taken into the church, signed the pledge, and claimed to be converted; also gave evidence of being a "shining light." The next day he relapsed and stole a large sum from his benefactor, who, with inconsistent charity, had him sent to jail.

Thus, all over the country, theoretical notions of the vice and sin of inebriety result in the senseless efforts to cure inebriates by appeals to a diseased emotional nature.

The energy and money spent in the gospel temperance work and other labors to pledge the victim to recover, is a sad commentary on the ignorance of its advocates.

Practically it is a failure, and always will be, for the reason that it ignores the actual state of the inebriate, and assumes the presence of another condition which no study indicates.

Some years ago I advised a lawyer, who was drinking to great excess, to go under medical treatment, and urged that he was positively diseased, and should act on this basis. Some friends sneered at this notion, and urged him to trust in the pledge and conversion.

The result of this is, that he is now serving out a life sentence for manslaughter committed while intoxicated. The failure of the church and pledge only increased his malady, and literally precipitated him into incurable states.

Had he recognized his physical condition, and used the means for recovery, no such result would have followed.

Inebriety is a more positive disease than insanity, because the continuous use of alcohol is without motive or object, and contrary to every dictate of self-preservation.

Inebriety is a more stupendous evil than insanity, more widespread and disastrous, and yet its study is in the hands of moralists and reformers.

The legal treatment, by jails and fines, literally destroys the victims, precipitating them to lower levels and more incurable conditions.

The only hope for the future is from a practical study by medical men, who have no other object except to find the facts and the laws which govern them.

The excessive and poisonous use of alcohol by a vast number of persons in this country is most certainly a problem of absorbing interest, and cannot be solved by theory and speculation.

Like cholera and yellow fever, it is no chance condition, but comes from some specific causes; and from the medical profession must come the practical investigations which will reveal these causes, and the means to remedy and neutralize them.

MEDICAL PROGRESS.

ANATOMY AND PHYSIOLOGY.

DISSOCIATION OF THE AURICULAR AND VENTRICULAR MOVEMENTS OF THE HEART.—PROF. A. CHAUVEAU reports, in the *Revue de Médecine*, a very unique and striking case. It was that of a man, a patient in the service of Professor Boudet, who had a radial pulse of only twenty-one to twenty-four beats per minute. Upon auscultation, and by means of sphygmographic tracings, it was found that, while the ventricles beat only twenty-one to twenty-four times per minute, the auricles pulsated sixty-six times. These auricular pulsations were tolerably regular, but were perfectly independent of the ventricular rhythm, being sometimes pre-systolic, sometimes post-systolic.

Professor Chauveau adds the result of his investigations as to the pathogeny of this condition. By cutting one of the pneumogastric

nerves in a horse, he obtained some dissociation in auricular and ventricular movements. But by slightly stimulating by a galvanic current the left vagus, he obtained a sphygmographic tracing of dissociated rhythm which almost completely resembled that obtained from his patient. The inference is that a slight irritation of the vagus is a cause of the dissociated movements. The case throws light, therefore, upon the pathology of dissociated rhythm of other types than the unique one here described.—*The Medical Record*, April 4, 1884.

MATERIA MEDICA AND THERAPEUTICS.

On the Internal Administration of Turpentine in Cutaneous Diseases.—Dr. H. Radcliffe Crocker read a paper before the Hunterian Society, in which he spoke highly of the ordinary oil of turpentine, used internally in cutaneous diseases, and considers that all turpentines have a very similar action. He gives the details of one case to illustrate the action of this drug in thirty other cases of psoriasis. In a few the psoriasis has been completely removed, but in most, considerable improvement has been manifested up to a certain point, when, as in the selected case, some external treatment was required for the complete removal of the disease. All the thirty cases were taken consecutively, without regard to the extent or duration of the disease, or to the general health. In only two cases was it necessary to discontinue the drug on account of slight strangury, and in three others the dose had to be diminished on this account; one of these was a girl who could never retain her urine more than two hours. In all these cases the dose was under twenty minims, and the irritation was not considerable, with the exception of one who did not attend for a fortnight, and kept on with the medicine in spite of the irritation; in this case there was bloody urine, which, however, stopped in a few days after the drug was discontinued. In three the drug had to be discontinued on account of dyspepsia (which the turpentine aggravated), which led to its discontinuance in all cases wherever there were any symptoms of gastric irritations. In several cases there was a decided increase of itching in the eruption at first, but with perseverance for a week or two longer this entirely ceased. Besides the well known violet odor imparted to the urine, it was noticed that a copious deposit of urates occurred during the first few days of the treatment, but this soon passed off, and appeared to be entirely due to diminution in the quantity of water.

Dr. Crocker has used this drug to advantage in about a dozen cases of eczema, but in this disease would restrict its use to those cases in which no defect in the general health can be detected. The cases in which turpentine is contra-indicated are: Children under five years old; all who have unsound kidneys or irritable bladders; most cases in which dyspepsia is present, though in some instances it can be tolerated even then; and gouty subjects, whose powers of elimination are seldom good. The physiological action in moderate doses is considered to be that of a stimulant of a powerful kind to the inhibitory reflex center, and to the vaso-motor center, thereby raising the blood pressure, and contracting the arterioles. It therefore is not in any sense of the word a specific, and fails to remove thickening and other consequences of long-continued inflammation, which are best attacked by local measures.

The mode of administration is: For adults and children over ten years, 10 minims rubbed up with an ounce of mucilage, so as to form an emulsion. This is given, directly after meals, three times a day, and the last dose should not be given within three hours of bedtime. In two of his cases there was slight discomfort on micturition in the morning when the last dose was taken after supper, but none when the last dose was not later than six o'clock. This is probably due to the proportion of turpentine in the contents of the bladder being much greater when it has been accumulating all night, while some of it is got rid of at the last micturition when the dose has been early in the evening. Another means of avoiding irritation in the urinary organs is to make the patient drink barley water freely from the very commencement of the treatment, and the patient should always be impressed with the necessity of frequent diluent drinks. In the case related the urine was reduced to 4 oz. while taking 40 minim doses, but was immediately raised to the patient's usual quantity when a quart of barley water per diem was given. In a few cases the drug was given in capsules, but the emulsion seems less liable to disagree, and but few patients, even among the children, made any serious objection on the score of the disagreeable taste. If the improvement is only proceeding slowly or the condition is stationary, and the patient is tolerant of the drug, the dose is increased by 5 or 10 minims at a time up to 30 minims a day. It is seldom necessary or desirable to go beyond this, though in three cases drachm doses were given without any ill effects; but the risk of albuminuria or even hæmaturia increases considerably after thirty-drop doses are reached; though, if the drug be stopped as soon as these symptoms appear, in two or three days the urine will have returned to its normal condition.—*The Practitioner*, March, 1885.

The Therapeutic Use of Sodium Nitrite.—R. M. Simon, M.B., publishes sixteen cases, five of aortic, five of mitral, and five of renal disease, and one an old man, æt. 72, suffering from vertigo without organic disease, in which this drug was administered with marked benefit in all but two of the cases. The result was most striking in a case of angina, but was almost equally so in each of the cases of heart disease, more especially

those in which the aortic orifice was affected. The dose given was one grain three or four times, and possibly, in any case of total or partial failure, it might have been wise to increase the dose, as, with the doubtful exception of one case of purging, no ill effects followed the use of the drug.

In the discussion of the remedy Mr. Simon refers to the observations made by Lauder Brunton in 1870, of Barth in 1879, and of Reichert and Weir Mitchell in 1880. Unfortunately, in Weir Mitchell's cases nitrite of potassium was used instead of nitrite of sodium, thus introducing a source of fallacy, as potash salts act powerfully on all muscular structures, including the heart. Dr. Hay published in 1882 the best and earliest paper on the use of nitrite of sodium in angina pectoris. His observations were all made on a single case, and he was able to show that the nitrous acid was the active agent in all its compounds except in nitrite of amyl, where the ether has an additional and similar influence. All the preparations of nitrous acid have in common the properties of dilating the smaller blood-vessels and lowering of the blood-tension. Mr. Simon used it freely in epilepsy, but without success. In heart disease he ranks it with digitalis.—*Birmingham Medical Review*, February, 1885.

Inunction of Mercury in Typhoid Fever.—Liebermeister has shown the striking influence of calomel given internally in cutting short typhoid fever. Dr. Kalb, of Thalmässing, now reports his treatment of 100 cases by the inunction of mercury ointment (*Berliner Klin. Wochenschrift*, No. 3). One gramme is rubbed into the abdomen on the first day for fully half an hour; on the next day over one thigh (inner aspect); on the third day over the other thigh. The same course is repeated during the three following days. A few calomel and opium pills are given on the first day, and alcohol is given methodically. On the eighth day, two days after completing the inunction, the temperature falls to normal, or very near it, and remains so, with very slight oscillations. Not only did Dr. Kalb find this method unfailing, but 80 per cent. of the cases were perfectly free from fever within ten days from beginning the inunction. Other patients in the same ward complained bitterly that they were not treated in the same manner. The spleen remains enlarged for about a fortnight after the fall of temperature, and the strictest care must be taken to keep the patients under observation during this time, for fear of a relapse. The treatment is only of value when adopted before the ninth or tenth day of illness, before roseola has appeared.—*Lancet*, Jan. 31, 1885.

MEDICINE.

Cystinuria.—It has recently been pointed out by Lépine and Guérin (*Comptes Rendus*) that there exist in the urine two forms of sulphur, apart from that which appears in combination with bases as sulphuric acid, viz., one that is easily oxidized, and a sulphur that is difficult to oxidize. The former can be oxidized by means of chlorine or bromine, while the latter requires fusion with potassium nitrate and hydrochloric acid. The greater portion of that difficult to oxidize is apparently derived from the bile by the reabsorption of taurocholic acid, but evidently not the whole of it; for when a dog with a complete biliary fistula was fed with bread and fat the sulphur oxidized with difficulty amounted to 30 per cent. of the whole sulphur, and with horseflesh to 23 per cent. Moreover, it is shown that sulphur difficult to oxidize is present in many pathological conditions in which there is reason to suppose that bile was reabsorbed. It would have been a matter of interest if MM. Lépine and Guérin had stated whether in these cases the amount of urea excreted was also diminished. In cystinuria, in which a considerable amount of unoxidized sulphur is discharged as cystin, the urea is nearly invariably diminished, pointing to deficient oxidation; and as some disorder of the hepatic function is generally found to exist, it has been considered that the seat of the impaired metabolism was in the liver. In fact, it has been stated that a small quantity of tannin is eliminated by the kidney in health (hence the trace of unoxidized sulphur originally discovered by Renalds in healthy urine), but that under certain conditions this is increased, and cystin is the result. The observations of MM. Lépine and Guérin, however, make it probable that we shall have to extend our hypothesis, and to conclude that mere increase of tannin does not lead directly to cystin, but to an increase merely of the unoxidized sulphur, and that some other condition is required to cause the appearance of cystin in the urine. This condition will probably be found to exist in defective elimination by the kidneys. In ordinary cases the tannin, whether in normal or excessive quantities, reaches the kidneys and undergoes transformation into unoxidized sulphur and urea. If, however, there is disorder of the kidney function, the transformation is only incompletely carried out, so that the intermediate product, cystin, is the result. This supposition is strengthened by the fact that cystinuria is frequently met with in patients whose kidneys after death have been found to have undergone extensive disorganization. The therapeutic considerations to be drawn from these remarks are, that in cases where we may be led to suspect the presence of cystin in urine, and fail to find it, we should pursue our inquiries a little further, and endeavor to ascertain the amount of unoxidized sulphur eliminated by the kidneys. If this should be increased, as these observations of Lépine and Guérin show it not infrequently to be, our treatment should obviously be directed to promoting general and local oxidation.—*Lancet*, Feb. 14, 1885.

THE MOST SENSITIVE AND CREDIBLE TESTS FOR ALBUMEN.—DR. HENRY B. MILLARD, at the close of an article on this subject, draws the following conclusions:

Nitric acid shows 1 part of albumen in 100,000. Heat shows 1 part in 100,000, but rather more clearly than nitric acid, and in examinations of urine I often find it to show minute quantities of albumen where nitric acid does not. Tanret's test and my own test will show 1 part in 300,000; the latter test the more clearly; this precipitates fewer of the alkaloids than Tanret's.

Nitric acid and heat show almost exactly the same reaction and percentage with artificial albumen and albuminous urine. Tanret's test and my own show the reaction better in the urine than in the artificial preparation. I think, for practical purposes and ordinary clinical use, we may show with ease, by nitric acid, 1 part in 100,000; heat, 1 part in 100,000; Tanret's test, 1 part in 200,000; the phenic-acetic acid and potash test, 1 part in 200,000; heat showing it more clearly than nitric acid, consequently being more sensitive, and my own test showing it more clearly than Tanret's.

Heat, although somewhat more sensitive than nitric acid, is often quite unreliable from the turbidity produced by it with mucin, and this particularly after acetic acid has been added.

Finally, there are cases in which no single reagent is sufficient, and in which, in order to determine the presence of albumen, the employment of several is indispensable.—*The Medical Record*, April 4, 1885.

SURGERY.

A CURIOUS CASE OF ACCIDENTAL PARASITE IN THE THROAT.—Surgeon S. J. Rennie, serving in India, gives the following curious case: T. Gunner, æt. 20, was admitted to the Station Hospital, Cawnpore, on October 23, suffering from the ordinary symptoms of relaxed sore throat accompanied by slight fever. The redness was most intense on the posterior wall of the pharynx; but the arch of the soft palate, uvula, and tonsils were also implicated. There was no ulceration. With the use of gargles and nitrate of silver locally the throat was somewhat relieved. On On October 25, 1 P.M., he had coughed up three maggots, which on examination proved to be the larvæ of the common fly. A deep rugged tract, about one-half an inch wide and two inches long, was now seen in the posterior wall of the pharynx, extending downwards from opposite the arch of the soft palate, reaching as low as the junction of the pharynx and œsophagus, opposite the upper arch of the larynx. A mass of maggots was seen freely moving in the cavity. The tract was swabbed out with eight grains of calomel on a camel's-hair brush, and in two hours the patient had expectorated over twenty, each about half an inch in length and two lines in circumference. Several more were got out by the aid of a syringe and solution of Condy. He was discharged to duty on November 12. Mr. Rennie's theory is that the man had been lying asleep, probably drunk, with his mouth open, and the fly had somehow got in and laid the eggs, probably depositing them high up out of sight, and there the larvæ, feeding gradually downwards, set up the inflammatory symptoms, till at last they suddenly burst through the mucous membrane.—*Indian Med. Jour.*, January, 1885.

TRANSMISSION OF SYPHILIS BY THE HEBRAIC RITE OF CIRCUMCISION.—Dr. A. Kédotoff cites three cases of this character, in the first two of which mother and child both suffered from the infection. This operation has been so frequently described as to make it unnecessary to repeat it here, except to say that after the foreskin has been removed, the wound is sucked by an assistant. It is certain that if the psylle be syphilitic, the chances are very great for the contamination of the child, recognizing the frequency of buccal chancres.

In the three cases cited there was no question of hereditary syphilis, because in the first two the fathers were carefully examined and showed no traces of the disease, and the other children were exempt. In the first two there were traces of the primary sore on the penis. If the hereditary influence be admitted, it is difficult to understand how the children could so infect their mothers. The operator being examined was found to be perfectly healthy. The psylle (or the assistant whose business it was to suck the wounds) showed no blotches or cicatrices upon his body. The cervical, epitroclear, and inguinal glands were slightly tumefied. No trace of syphilis on the genital organs or about the anus. But on the mucous membrane of the lower lip there was a curvilinear cicatrix, passing to the gingival ridge, where there was a pearly spot, which was covered by thickened, whitish, opaline epithelium. On the mucous membrane of the upper lip there was a yellowish fissure, and on the gum opposite to it a little greyish spot, as if covered with false membrane, and which looked like a mucous patch; the tonsils were slightly injected. The psylle denied that he had had syphilis, and explained the presence of the cicatrix on the lip as due to a fall in childhood. One suspicious circumstance connected with the cases was, that the operator presented himself for examination without hesitation, while the psylle refused to come until brought by the police. A month later he was examined by two other physicians, who confirmed the presence of these symptoms, but were doubtful as to their origin. Dr. Kédotoff considers that the psylle contracted the disease less than five years before, possibly in another way than by coitus, and that the affection showed itself in a slight, benign form, which manifested itself from time to time as mucous patches—the form most apt to transmit infection. Moreover, it is this form which most frequently escapes attention. *Ann. de Dermatol. et de Syphil.*, Vol. V., Nos. 9, 10.

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PROPOSED AMENDMENTS TO THE CONSTITUTION AND BY-LAWS OF THE AMERICAN MEDICAL ASSOCIATION.

At the last annual meeting of the Association, one amendment to that part of the constitution relating to the conditions of eligibility for membership was proposed by Dr. C. H. Von Klein, of Dayton, Ohio, and will be before the Association for final action at the coming meeting in New Orleans. The proposed amendment is in the following form:

"1. No person who shall hereafter graduate from a medical college where literary education is not a prerequisite to such graduation, shall be eligible to be a delegate to the American Medical Association.

"2. All delegates to this Association, as a part of their credentials, shall present certificates from the County, District, or State Associations they represent, showing from what medical college and when graduated, but this provision shall not apply to delegates from the Army and Navy."

The object or motive that prompted the offering of this amendment is a good one, namely, the enforcement of a higher standard of general education of students before entering upon the study of medicine. But the words "literary education" used in the first part of the proposed amendment are too indefinite in meaning to be of any practical value. There should be some more definite standard of literary attainments than is indicated by the word "education." At least the chief branches of knowledge required to constitute a minimum standard of a *literary education* should be enumerated. Otherwise there will be as many different constructions as there are medical colleges in this country. Again, why make the requirement a prerequisite to graduation, which comes at the end of the medical college course, when it should be a prerequisite to the matriculation or entry upon the first medical college term?

At the same annual meeting of the Association, Dr. Foster Pratt, of Michigan, offered the following amendment to the by-laws: "Each Section shall nominate its Chairman and Secretary—all other nominations to be made as now, by the nominating committee."

The object to be accomplished by this amendment is to restore to the members of each section the right to choose their own officers, as was the practice for several years after the sections were instituted. It is claimed that the present method of nominating the officers of the sections by the nominating committee has often resulted in the selection of men for chairmen of sections in which they had previously done little or no work, and that it held out stronger inducements for those who are specially ambitious for official positions, to "log-roll" in the nominating committee, than to earn their promotion by good work in some one of the sections. It is further claimed that the members of each section are much better qualified to select good officers than the members of the general nominating committee can be.

Experience has pretty fully demonstrated the correctness of these claims, and consequently the amendment when put in proper form should be adopted. We say, when put in proper form, because the amendment before receiving a final vote, should specify the day during the progress of each annual meeting, when each section shall nominate or elect their Chairman and Secretary for the ensuing year, their term of office to commence at the close of the annual meeting during which they are elected.

An amendment of the by-laws, providing for the establishment of sections, was proposed by Dr. Carl Seiler at the last meeting, and is ready for final disposition at the coming meeting. It consists of a proposition to divide the present section of ophthalmology, otology and laryngology, into two sections, one of ophthalmology, and another embracing otology, laryngology and rhinology. The proposition to amend should be

carefully considered by those engaged in the several special departments named.

Still another amendment to the by-laws is pending. It was first offered as a resolution by Dr. Jerome Cochran, of Alabama, and so appears in the published minutes of the last meeting. But objection being made to its immediate adoption, the mover asked that it be laid on the table as a proposed amendment to the by-laws, which was done. The proposition as presented by Dr. Cochran is as follows:

Resolved, That it is the sense of this Association that it is not expedient for the nominating committee to nominate any of its own members for any of the offices of the Association.

Before calling for a final vote on this proposition, its author should so alter its phraseology as to make it an addition to the present section, defining the powers and duties of the nominating committee.

Members of the Association should also give the merits and demerits of the proposition due consideration. While it is doubtless true that there has been every year a scramble on the part of ambitious men to get on the nominating committee, on account of the facilities afforded for making selfish combinations, and while it does not look well for a committee to recommend many of its own members for official positions, yet there are some valid objections to making mere membership of the nominating committee a disqualification for holding any other office during the year. It would doubtless lessen the willingness of many to serve on the nominating committee, and at the same time enable watchful and designing parties to get unsuspecting but most worthy members appointed on the nominating committee, simply to defeat their nomination to official positions for which they might be eminently well qualified. We suggest whether it would not be practicable to institute some better and much more reliable mode of selecting the members of the nominating committee than that pursued at present. There is certainly room for improvement in this direction.

THE MEDICAL EXAMINING BOARD OF VIRGINIA.

In another column we give the proceedings of the first business session of the Medical Examining Board of Virginia, together with the list of questions asked the twenty-seven candidates who presented themselves for examination. That the Board is already in good working order is shown by: *first*, the questions asked; and, *secondly*, by the fact that seven candidates were rejected out of the twenty-seven; it being required that seventy-five per cent. of the questions should be correctly answered. It is evident that this Board has set to work in earnest, and the people and profession of the state are to be congratulated on having a Board which shows evidence of doing thorough work.

There is still much to be done, however, in this work in Virginia. The state needs protection from its horde of quacks and those who are practising without diplomas. The Board of Examiners, and the profession generally, should use every honorable method for obtaining legislation on these points.

UNSANITARY TOBACCO-FACTORIES IN OHIO.

The *Cincinnati Lancet and Clinic*, of April 11, contains an unsigned article on this subject, which claims that physical wreck and moral and mental ruin are produced among the employés in the tobacco-factories in that state. If all that is stated in this article be true, there is a large field of work in Ohio (and presumably in other states) for the legislature and for boards of health.

The employment of children in factories must be regarded as necessarily an evil, though by no means a necessary evil. The article in question says that there is a law on the statute books of Ohio which would lead one to suppose that the education of children was compulsory in that state; but that it is never enforced because it needs a cultivated public sentiment behind it to give it a moral force and effect. It needs more; it needs an efficient corps of state officers, especially a state board of health, which, to be efficient, should be indorsed by an enlightened public sentiment.

The article goes on to state that one of the apparently most prosperous towns in southern Ohio is beginning to feel the evil effects of a large number of girls and boys together in two immense tobacco-factories, in which they are at work from 7 A.M. until 6 P.M. In one of these factories, which employs about four hundred and fifty persons, there are two hundred girls and boys, the greater number of whom are under fourteen years of age. The proprietor, who a few years ago was a poor man, is now worth half a million; but while he has grown rich, his employés have become degraded morally and physically; they have grown poor in mind and body.

In one room in one of these factories are one hundred and forty or fifty females, nine-tenths of whom are under seventeen years of age. This room has a nine-foot ceiling, and is not over thirty-five feet square. "Every window on this floor is closed to prevent the moisture in the tobacco from drying too fast, as therein lies a large percentage of the profits. It is easily seen that these people can get only about seventy cubic feet of air each during about ten hours, while it is known they *require* not less than three times that amount. This town in which these sins against health and common sense and against humanity are committed, is said to furnish more than half the cases of crime and lunacy for the courts of the county in which it is situated, and this with a population of about six thousand inhabitants. None of the children who work in the factories get any schooling during the year. They work the year round in the factory, or until they give out from sheer exhaustion or nervous prostration."

"The physicians of the place are frequently called upon by females working in the tobacco establishments, to be treated for difficult menstruation, general nervous prostration, and anæmia, which constantly affect them. During the past year there have been over fifty cases of that kind in this little town of six thousand inhabitants. Several deaths have occurred, produced by nervous diseases contracted in the tobacco-factories. The children belong to poor parents, who move to the town to get employment for them, while they do little or nothing, and compel the children to earn a livelihood for the whole family."

The article also states that connected with these factories are cess-pools, which are made for the convenience of the employés. The water is obtained by driven wells, but in time it necessarily becomes contaminated by the saturation of the soil with excrementitious matter, and a new cess-pool has to be dug every few months.

"There ought to be a state board of health, composed of physicians of known and acknowledged ability, to coöperate with county and municipal boards of health, that the authorities might reach such cases. . . . The necessity exists for the state to interfere, and see to the proper sanitation and improved ventilation of these factories, where so many people are daily exposed to the poisonous and infected atmosphere of close rooms. There is no question that the bad air and evil communications in such establishments tend to engender brutal instincts, . . . and temporary, if not permanent, insanity is often caused by constant exposure for months to the same vitiated atmosphere."

The Ohio legislature is still in session, and there is no more fitting time to urge upon it the appointment of an *efficient* state board of health. The people of a state which allows such outrages on common sense, humanity, and the laws of health, cannot think to escape pestilence. How would this town fare should cholera invade the country during the coming summer? Every physician in the state should see to it that the greatest pressure be brought to bear upon their legislators to appoint a state board of health, and that the proper funds be granted for the carrying out of sanitary measures.

OUR BRITISH BRETHREN.

Our British *confrères* seem to have a trifle of unrest in their daily lives; such matters as which bell to ring, what to do with their hats, how many fingers to use in shaking hands, where to send their boys to school, and other living questions of the day seem to give them a world of trouble, Any one reading the correspondence columns of the *Lancet*, *British Medical Journal*, or *Medical Times and Gazette* would scarcely infer that they regard life as "One grand, sweet song," or that the greater number of them are entirely free from dyspeptic attacks. There is a childlike freshness and simplicity about some of the questions asked, and an evident and earnest thirst for knowledge to be found in these columns that is most refreshing to slow Americans.

A few months ago an animated discussion was kept up for some time as to whether Coleridge drank his laudanum diluted with wine, or whether the wine was the diluted element; the logomachists entirely forgetting the main question at issue—whether the wine was port or claret. Is it too much to hope that this question will be settled definitely at the earliest possible moment—say sixty days, without grace? The spelling of the word "cocaine" seems to have been the innocent cause of much discussion also; the ink on Koller's manuscript had scarcely dried, scarcely even the bandage removed from the eye of his first patient, before communications began to pour into London suggesting that the drug should be known as cucain and cucaine. Curiously enough, no one seems to have thought

of "Kuka'hin," and we have hesitated even to hint at this spelling for fear it may at once find favor at Apothecaries' Hall.

A correspondent of one of the above-named periodicals wishes to know "What is considered about the proper time for a doctor's visit to be?" Why not 4 A.M.? This would probably make a decided impression upon the family as to the extent of his practice. The question naturally suggests that a busy practitioner can make all of his calls at the same hour. But it is possible that the correspondent wishes to know "What is considered about the proper length for a doctor's visit to be?" though his question is not so stated. After giving the matter careful consideration, we would advise anything from five minutes to two hours and a half — depending altogether on the amount of gossip on draught at the patient's house. Another wishes to dress all medical men in a distinctive garb, so that the public may recognize them afar off — and avoid them. He does not recommend any particular style to be adopted; possibly a club-foot shoe, a hypodermic syringe, and a Sim's speculum would be as distinctive and striking as any other, and very convenient in emergencies.

A (presumed) Teetotaler, M.C.Q., R.S.V.P., complains that the "Habitual Drunkard's Act" is too liberal. This is one of the disadvantages of living in a civilized country; habitual drunkards are always very liberal with their performances. But if the gentlemen given to habitual intoxication, in the British isles, are capable of performing any acts which are unknown to their American prototypes, we hope that Congress will at once place them on the "Chinese list" as high-tariff luxuries. If one may judge by some of these letters, specialism seems to be running riot in the United Kingdom. An ethical correspondent states that he was called to attend one of the pleuræ of a lady who was also suffering from joint disease. Not being acquainted, or on good terms, with the physician to the joint (we forget which), he declined to have anything to do with the articular system of the patient. If that patient had been so unfortunate as to have double pleurisy and general articular rheumatism, with a physician to each pleura and a surgeon to each joint, we may well tremble for the subsequent results. If things go on at this rate, it will not be very long before we will read on the title-page of some British surgeon's new book that, in addition to his having appropriated all the consonants in the alphabet for titles, he is Surgeon in Ordinary to the Umbilicus of His Grace the Duke of ——.

A searcher after truth (and a cure for sneezing) is told, after much tribulation and delay, that the patient should be made to go down stairs head first. We have tried this method of descending stairs, though not for the relief of continued sternutation; but there are objections to it. It is not dignified, and is somewhat prejudicial to wearing apparel. These objections might be removed, however, by taking the remedy in one's own private apartment, *déshabille*, on a step-ladder. Still another, with great gravity and intrepidity, yet without circumlocution, lifts the veil of horrors and propounds the momentous query, "Should salts be given in a beer-mug or a teacup?" as though he supposed that the editor of a great medical journal was in the habit of taking salts. Here in America we always give salts in water; but there is an impression in the old country that water should not be introduced into the stomach; it is "common." Seriously, it should be entirely unnecessary to say that etiquette strictly requires that salts be always administered to *titled* persons in a shaving cup; to gentlemen and their families in a bottle; and to common folk in anything that comes handy. It is well for young English physicians who intend locating "in respectable neighborhoods" (where there are three bells on the doors) to know these facts, and carry an assortment of cups in their pocket-cases. It is a matter of surprise that such every-day facts are not drilled into the students in the schools. It will probably not be very long before another anxious inquirer will ask whether a pill should be given in a soup ladle or a pair of tongs.

Just at present the English weeklies are suffering from an alarming epidemic of letters on "The Title of Doctor." The university men — those who have a degree in arts and the degree of M.D. from a university (or *an* university, as they say) — are considerably disturbed that anyone else should be allowed to use the title of doctor. And it does seem rather strange that men who can legally follow up their names with a large number of consonants, varying from one-third to three-fourths of those in the alphabet, and with all the possible combinations and permutations, should also yearn to add two more. Are medical talent and knowledge gauged over there by the extent to which the alphabet is

depleted? It certainly seems that many talents are thus gauged in Great Britain. Not very long ago a London paper contained the following advertisement: "Wanted, a gentleman, an university graduate, to milk goats; must have had some experience." Will the British Medical Association allow the suggestion, that it at once adopt the Russian alphabet, which contains thirty-six letters—almost all consonants—from which to select more and much-needed titles?

THE OPERATIVE MEASURES FOR PYLORIC STENOSIS.

Dr. Randolph Winslow, of Baltimore, contributes a very interesting article on this subject to the April number of the *American Journal of the Medical Sciences*. It is only within the last six years that surgeons have awakened to the fact that there is any operative measure for this affection, either palliative or curative. No special difficulty attends the diagnosis of pyloric stenosis, even without the use of the gastroscope of Mikulicz. With internal medication the prognosis is necessarily hopeless, and any measure for the relief must be surgical.

Six different operations have been recommended and practised for the relief of stenosis of the pyloric orifice: 1, pylorectomy; 2, gastro-enterostomy; 3, gastrectomy; 4, gastrostomy; 5, duodenostomy; 6, digital divulsion of the pylorus, Loreta's operation.

The first resection of the pylorus was performed by Pean, in 1879, with a fatal result from inanition. It was next performed by Rydygier in the following year, with a like result. The third operation, and the first successful one, was done by Billroth in November, 1881; but the patient died four months afterwards in consequence of the recurrence of the colloid carcinoma. Billroth then had two fatal cases. Up to this time he has operated eleven times, with six recoveries. The operation has been performed eighteen times in Germany, with six recoveries. Eighteen operations have been performed in Austria, with eight recoveries. Holland has had two cases, with one recovery; Great Britain three cases, all fatal. Switzerland has the same average as Germany, but with only one-third the number of operations. Dr. Winslow's table shows that the United States, Great Britain and Russia, France, Brazil, and Norway give 100 per cent. of fatal cases. Considering the great mortality of the operation, and the almost certainty of recurrence, the author of the paper in question holds that resection of the cancerous pylorus should only be performed under very exceptional circumstances. Rydygier and von Hacker also give uncontrollable hemorrhage from ulcer and perforation as indications for the operation; but it is easily seen that neither can be given as indications. It is usually impossible to say whether the hemorrhage is caused by ulcer, cancer, simple inflammation, or hepatic disease. Perforation from an ulcer would certainly be an indication for laparotomy, if the condition were recognized or suspected; but it would be better to excise the ulcer itself, or to invert the edges and suture them.

Gastro-enterostomy appears to offer much better results than pylorectomy. Of the thirteen cases reported, only three have died of collapse, while of the first thirteen pylorectomies eight died from this cause. The statistics of the operation show thus far only thirty per cent. of recoveries; but it is extremely probable that the percentage would have been much better had the operation been performed earlier, and before the condition of the patients became so desperate. We may pass over the consideration of gastrectomy and gastrostomy with the remark that they offer far less good results than gastro-enterostomy.

Three cases of duodenostomy have been performed, with three fatal results. There seems to be no field for the operation; gastro-enterostomy is essentially better in cases of malignant disease; and Loreta's operation fulfils every indication for which duodenostomy could be performed in non-malignant cases.

Digital divulsion of the pylorus, for non-malignant stricture of the pyloric orifice, was devised and performed by Loreta, of Bologna, in September, 1882. Up to July, 1883, he had performed the operation four times, with one fatal result. The operation has also been performed by Giommi, with death in twelve hours, and by Frattini, the last report of this case being that the patient was doing well on the third day. We are of the opinion that there are other cases of this operation, as Dr. Winslow thinks. It has not yet been performed outside of Italy, but it seems that in time it must become the operation for all cases of non-malignant stricture of the pylorus. A careful review of the statistics of operations for malignant and non-malignant disease of the pylorus, can scarcely fail to impress

one with the idea that the sooner gastro-enterostomy becomes the sole operation for the first, and Loreta's operation for the second, just so soon will the prognosis of these become markedly better, and the present fearful mortality be greatly diminished.

There is, furthermore, another factor which must be taken into consideration as regards the prognosis; the time at which the operations are performed. It is apparent that whether the patient have malignant or non-malignant disease, his chances of recovery are immensely greater when an early operation is performed. There was a time when it was thought best to defer operation upon the cancerous mamma as long as possible; but Gross has shown that there can be no greater error than this. We have no doubt that the same opinion will ere long prevail in regard to operations on the stomach; and to malignant disease in other localities, however difficult of access they may be.

In the same number of the *American Journal of the Medical Sciences* is a report of a case of partial pylorectomy for stenosis, by Dr. J. M. Spear, of Maryland. It was a typical case for Loreta's operation. The result was fatal.

DESTRUCTION BY FIRE.

The fire that occurred on Wabash avenue on the 14th inst. included in its destructive progress the printing establishment in which the JOURNAL has been printed. At the time the fire occurred nearly all the matter for the present number of the JOURNAL was in type, and the first galley proofs were being corrected. The smoke and flames came upon the workmen so rapidly that very little property of any kind was saved. The type was melted, and both manuscript and galley proofs were destroyed, thus obliterating a large part of what had been prepared for this issue. Before twenty-four hours had elapsed, the printers had made arrangements with another printing house to resume our work, and with the aid of our very efficient assistant, we, by substitution and reproduction, furnished the necessary matter as fast as needed, and had the number completed and mailed to its many readers within forty-eight hours of its usual date. The proceedings of a meeting of the Obstetrical Society of Philadelphia; a letter from a correspondent in the same city, and two letters from our correspondent in Berlin, were among the matters entirely destroyed. Fortunately, the JOURNAL had no property stored in the printing house except eight or ten dollars' worth of stereotype plates of advertisements. These were melted with the type.

SOCIETY PROCEEDINGS.

CHICAGO MEDICAL SOCIETY.

Thirty-fifth Annual Meeting, April 6, 1885.

THE PRESIDENT, D. A. K. STEELE, IN THE CHAIR.

After the minutes of the previous meeting were read, and were approved without correction, and the election of new members and the remainder of the usual routine had been disposed of, the auditing committee submitted its report, which showed that a number of statements regarding the treasurer's last annual report might be construed as criticisms. On the other hand, they were suggestions to show the need of keeping up a pretty strict observance of the regulations in the by-laws concerning the prepayment of initiation fees and proceedings against delinquents.

The expenditures of the treasurer were accompanied by vouchers, except the items of postage ($12.25), postage for secretary and express package ($7.50), and collector's fees of $6.30. The footings and balance were correct.

The committee also examined the first annual report of the committee on library, and found that every item of expenditure was accompanied by voucher, except $2 for printing and $31.40 for postage. The sums total and credit balance were correct.

(Signed) CURTIS T. FENN,
LISTON H. MONTGOMERY,
Auditing Committee.

Upon motion of Dr. E. J. Doering, the report of the auditing committee was accepted, and the committee was discharged.

SECRETARY'S ANNUAL REPORT,

Chicago Medical Society, read at the thirty-fifth annual meeting, April 6, 1885, Grand Pacific Hotel, by LISTON H. MONTGOMERY:

MR. PRESIDENT AND MEMBERS OF THE SOCIETY,—The following extracts we herewith present to our readers. It is but fair to state that it affords me much pleasure to present a most favorable report of the proceedings of this the closing of the thirty-fourth year of our association; a report which I am sure those who have watched the steps of progress we have made within the past several years will be equally as well pleased and gratified at hearing, as it is for me to announce, and which, I trust, will commend itself to your kind favor. The *résumé* is as follows:

During the year twenty regular meetings were held. The national conventions with which this city was honored during the months of June and July last prevented our holding more than one session in each of those months. Fifty-eight essays, original contributions, and reports of

cases have been read, presented by forty-four members, besides a number of pathological specimens and instruments that have been exhibited. Six hundred and forty-eight members and 111 guests have attended these meetings, being in all 759 physicians, compared to 638, the number of physicians who met with us during the year previously. The largest number of members in attendance was 91. The smallest number was 17. The average attendance of members at each meeting was $32\frac{8}{20}$; of guests, $5\frac{11}{20}$, or a total average of $37\frac{19}{20}$ compared to $31\frac{8}{20}$, the average attendance the year previously. During the year we have received into active membership 51 new members, compared to 35, the number admitted in the years 1883–84. The membership one year ago consisted of 242 names; an increase of 51 during the year would augment the total membership to 293. Of this number, however, two of the fellows have "gone to that bourne whence no traveller returns," one of whom was present at the annual meeting last year. Four have resigned, caused by removal from the city and other causes, and a definite number whose names were directed by the treasurer to be dropped from the list. This course your secretary regrets very much indeed to have been obliged to follow, and could not otherwise have done so but for the plain duty which made it necessary. Besides these there are four others whose whereabouts are unknown, which will leave an accurate and correct list of 270 that now constitute the revised membership of this society.

Of this number 260 are fellows of this society. The remaining number, ten, are ladies, some of whom have honored this meeting by their presence here to-night.

Regarding the biography of the various members, much of interest could be said in this report, but your curiosity will be fully satisfied when I mention that 214 are married and fifty-six are single, and quite nearly 150 are professors or instructors in the various medical colleges and hospitals throughout the city.

That you may form some idea of the amount of work performed by your secretary during the past year, I will state that in round numbers at least 4,275 postal card announcements have been superscribed for these meetings, 120 pages of records have been transcribed and indexed in this book [which was then shown], making it a valuable souvenir, besides a large number of correspondents that required attention. And this leads me to mention what is perhaps most appreciated, namely, the almost verbatim and faithful report of our proceedings, pertaining more particularly to the essays and discussions, abstracts of which have been published in about twenty-five of our home leading medical journals, furnished at time of adjournment from elaborate notes taken at time of debate. [The remainder of the report related to details of local interest chiefly.—ED.]

THE ANNUAL REPORT OF THE TREASURER,

DR. E. F. INGALS, was then read, which showed a balance in the treasury up to noon of to-day of $581.94.

Upon motion the treasurer's report was received.

The second annual report of the Committee on Library was submitted, of which the following gist of it has been taken, showing its financial footing:

Cash on hand at the beginning of the year...	$206 50	
Cash donated by physicians.....	238 00	
		$444 50
Expended in the operations of the committee,		310 12
Balance		$134 38

During the year the following donations of books and journals have been received:

From Dr. A. R. Jackson, 22 volumes.
From Dr. Edmund Andrews, 5 volumes.
From Dr. T. S. Hoyne, 3 volumes.
From Dr. J. S. Lane, 17 volumes.
From Dr. A. H. Foster, 5 volumes.
From Dr. D. A. Colton, 1 volume.

From Dr. Ludlam, a large collection of British journals now on the way, but not yet arrived.

Honorable mention was made by the committee, stating that the committee of arrangements of the Illinois State Medical Society for the meeting held in Chicago in May, 1884, had from the surplus funds in their hands purchased and placed in the Public Library a complete set of the *American Journal of the Medical Sciences*, consisting of 113 volumes, also a set of proceedings of the International Medical Congress, London, 1881, consisting of four volumes, both of which are regarded as valuable accessions to the collection already made.

The report closed by recommending that $450 be appropriated from the funds of the society to facilitate the committee's plans for the coming year.

(Signed) E. ANDREWS,
F. C. HOTZ,
D. W. GRAHAM,
Library Committee.

The report was accepted and adopted.

Dr. R. E. Starkweather, on behalf of the committee on national sanitation, submitted a report which was well received. He offered the following resolutions, which were adopted unanimously:

Resolved, The Chicago Medical Society approves of the action lately taken (March 16, 1885) by the executive committee of the Sanitary Council of the Mississippi Valley in its petition to the President of the United States requesting him to immediately convene the National Board of Health, and to authorize it to use so much of the epidemic contingent fund placed in his hands by congress as may be necessary for preparing and promptly enforcing a vigorous system of preventive measures in coöperation with, and in aid of, state and local health organizations, with special reference to Asiatic cholera.

Resolved, That the secretary of this society be, and hereby is, directed to communicate a copy of these resolutions without delay through the proper channels to the

President of the United States and to the secretary of the Sanitary Council of the Mississippi Valley.

Dr. A. H. Tagert, in behalf of the committee on nominations, presented a list of names which, according to the motion previously made at last meeting, may be voted for as officers for the coming year.

Upon motion, duly seconded, other nominations were in order, which finally resulted in the following gentlemen being elected

OFFICERS FOR THE ENSUING YEAR:

Charles T. Parkes, M.D., President.
Charles W. Purdy, M.D., 1st Vice-President.
James H. Etheridge, M.D., 2d Vice-President.
Liston H. Montgomery, M.D., Secretary.
Harold N. Moyer, M.D., Treasurer.

Drs. G. C. Paoli, E. F. Ingals, and D. A. K. Steele were appointed the Committee on Membership and Miscellaneous Business.

Dr. F. C. Hotz was reëlected to the Committee on Library as his own successor.

The following gentlemen were elected

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION:

Dr. A. Reeves Jackson, Dr. George W. Webster, Dr. Wm. P. Verity, Dr. Henry J. Reynolds, Dr. H. T. Byford, Dr. E. J. Doering, Dr. J. E. Walton, Dr. Edwin Powell, Dr. A. E. Baldwin, Dr. W. W. Allport, Dr. George H. Chapman, Dr. F. E. Waxham, Dr. A. Goldspoon, Dr. W. W. Jaggard, Dr. Charles T. Parkes, Dr. Liston H. Montgomery, Dr. D. A. K. Steele, Dr. G. C. Paoli, Dr. L. L. McArthur, Dr. A. H. Tagert, Dr. J. H. Etheridge, Dr. R. E. Starkweather, Dr. D. R. Brower, Dr. J. H. Plecker, Dr. D. T. Nelson, Dr. Wm. E. Clarke, and Dr. C. W. Earle.

President Steele, before retiring from the chair, delivered an excellent address, but our space will not admit of his remarks *in extenso*.

STATE MEDICINE.

THE MEDICAL EXAMINING BOARD OF VIRGINIA.

The State Board of Medical Examiners of Virginia held its first meeting (except one on November 15, 1884, for the purpose of organization) on April 8 and 9, 1885.

The Board is composed of three members from each of the ten congressional districts in the state, and two from the state at large.

Applicants for license to practise medicine in Virginia who had never been licensed *in this state* prior to January 1, 1885, are required to pass a satisfactory examination before either the Board in session, or any three individual members of the Board whom the applicant may select. If he applies to the Board in session, he has to stand one examination on each of the following branches: Chemistry, anatomy, physiology, hygiene, materia medica and therapeutics, obstetrics, practice of medicine, and surgery. If, however, he applies to three individual members of the Board, he is required to stand a separate and distinct examination on *each* branch before *each* of the three examiners. Graduates and non-graduates are subjected to precisely the same examination.

Prior to the meeting of the Board on April 8, two candidates for practice had applied to three individual members of the Board for examination. One of these passed a satisfactory examination; the other was rejected.

At the meeting of the Board on April 8, there were twenty-five applicants; of this number, all but one were graduates of respectable medical colleges. Of the twenty-five applicants, six were rejected. The law requires that all rejected applicants shall wait three months before they can apply for another examination.

The Board is divided into eight committees, of four members each, on the different branches on which examinations are held. Each committee prepares the questions, and values the answers on its special branch, and when all the papers are handed in, the president and secretary add up the figures. If an applicant answers three-fourths of the questions satisfactorily, and does not fall very much below on any subject he is furnished with a certificate to that effect, which enables him to procure a license.

The answers to all questions are in writing, but any examiner is at liberty to ask any questions he may choose, and in any way he may think best, in order to satisfy himself of an applicant's knowledge.

The following questions were submitted to the applicants at the recent examination on April 8th and 9th:

Chemistry.—1. Give the process of the reduction of aluminium; its specific gravity; its point of fusion; its solvents and its physical properties. Name the medicinal salts and their therapeutic uses. 2. Give the process for the manufacture of sulphuric acid from the bisulphuret of iron, and give the symbols for Nordhausen and for anhydrous sulphuric acid. 3. Give the process for the reduction of iron; the difference between cast iron, wrought iron, and steel, and the two most delicate tests for the salts of iron. 4. Take the stomach of a man supposed to have been poisoned with strychnia, carbolic acid, oxalic acid, or arsenic, and give the whole process for testing for each of these substances. 5. Test some well water for the albuminoids, chlorides, sulphates; for iron, lime, soda, potash, and lead. What would a large quantity of chlorine probably indicate? 6. Give the antidotes for the salts of lead, copper, zinc, and antimony, and the mode of preparing each of these antidotes.

Anatomy.—1. General composition; structure and mode of nutrition of bone; classification of bones and examples of each kind. 2. Describe the hip, elbow, and occipito-axoid joints. 3. Anterior abdominal muscles and relations of the hernial rings. 4. Locate and describe the valves

of the heart, and give outlines of the portal circulation. 5. Subdivisions and relations of the different parts of the alimentary canal. 6. General and descriptive anatomy of the kidney. 7. Cranial nerves, number, mode of exit, and function. 8. Membranes of the brain and cord; number and relations of the same.

Hygiene.—1. Name some of the diseases preventable by sanitary legislation, and other diseases which are lessened in violence. 2. Name the different modes of disinfecting bedding, buildings, and cisterns, and name the best disinfectants in use. 3. What are the effects of impure water and of impure meat taken into the stomach, and how manifested? 4. What are the effects of alcohol at different ages of life, as a beverage in health and in disease?

Physiology.—1. Describe the various secretions concerned in digestion, their source, and what elements of food each digests. 2. What nerves are concerned in the contraction of the iris. 3. State the quantity of urea excreted in twenty-four hours, and the sources from which it is derived. 4. Describe the nerves in their distribution to the recti and oblique muscles of the eye. 5. What are the functions of the red and white corpuscles of the blood; also what length of time is required for the blood to make entire circuit of the body? 6. What are the physiological factors in the production of heat in the human body, and from what points is it mainly eliminated? 7. State the function of the grey and white matter of the spinal cord, the course of sensory and motor impressions, and also the centres therein. 8. What are the functions of the cerebellum?

Materia Medica and Therapeutics.—1. Give origin, uses and different preparations of ipecac. 2. Give origin, uses, and antidotes of opium. 3. Give antidotes for arsenic, strychnia, and lead poisoning. 4. What are counter-irritants, and their therapeutic uses? 5. Give doses of the different tinctures of aconite, and tincture of veratrum viride, with common name and habitat of last drug. 6. Describe the most important preparations of mercury, with the dose of each. 7. What is the most important therapeutical application of mercury? 8. What is massage? State its therapeutic applications. 9. Give the dose of infusion of digitalis, liquor potassæ, arsenitis, dilute hydrocyanic acid, oleum tiglii. 10. Give rate of dosage for children. 11. Ergot, its preparations, and their uses and doses. 12. Origin and uses of atropin. 13. Give origin and uses of salicin. 14. Digitalis, its habitat, effects on system, and dose of tincture. 15. Give formal prescription for castor oil emulsion.

Obstetrics.—1. What is the period of gestation, and how calculated? 2. What is natural labor; its usual duration and stages? and what the duties of a physician when called to a supposed case of labor? 3. What is placenta prævia? how determined, and how treated? 4. What is post-partum hemorrhage; its causes and treatment? 5. At what period of labor, and in what class of cases, should ergot be administered? 6. In threatened abortion, with hemorrhage, what should be done?

Practice of Medicine.—Causes of.—1. Cirrhosis of the liver; 2. true croup; 3. remittent fever; 4. acute pericarditis. Pathology of.—1. Epilepsy; 2. acute pneumonia; 3. diphtheria; 4. cerebral apoplexy. Symptoms of.—1. Epidemic cerebro-spinal meningitis; 2. acute dysentery; 3. measles; 4. acute rheumatism. Diagnosis of.—1. True croup; 2. scarlet fever; 3. cholera infantum; 4. typhoid fever. Treatment of.—1. Chorea; 2. cholera morbus; 3. diphtheria; 4. acute pleuritis.

Surgery.—Causes of.—1. Septicæmia; 2. erysipelas; 3. hemorrhoids; 4. hip-joint disease. Pathology of.—1. Gonorrhœa; 2. glaucoma; 3. stricture of urethra; 4. corris. Symptoms of.—1. Subcoracoid dislocation; 2. otitis media; 3. Colles' fracture; 4. aneurism. Diagnosis of.—1. Acute intestinal strangulation; 2. hydrocele; 3. dislocation of femur on dorsum ilii; 4. dissect inguinal hernia. Treatment of.—1. fracture of clavicle; 2. Pirogoff's operation on the foot; 3. ligature of subclavian artery; 4. penetrating wounds of chest.

BOOK REVIEWS.

THE ANNUAL AND SEASONAL CLIMATIC MAPS OF THE UNITED STATES. By CHARLES DENISON, A.M., M.D., Professor of Diseases of the Chest and of Climatology, Medical Department of the University of Denver. Rand, McNally & Co., Chicago, Illinois.

The number of people who are annually borne home in their coffins from the so-called "Health Resorts," is a solemn and silent testimonial to the ignorance of the greater number of our physicians as to the climate of various portions of their own country; and the number of foreigners who die at these places shows that our *confrères* across the water know even less than we do of this important subject. Patients are often told to go to Cuba, the Adirondacks, Florida, or Colorado, who would have done equally well in going to Panama, New Guinea, or the northern part of Greenland; and one can but think that they would have been sent to one of these localities had the physician not thought of one of the other places first. To tell a patient to go to a certain "Health Resort," is to give him a prescription; a mistake in a prescription for a bottle of medicine may be remedied before the patient has taken sufficient to do harm to himself; but a mistake in a health resort is a much more serious matter. Shot-gun prescriptions for health resorts should no more be tolerated at the present day than those for medicine from the drug store.

It is scarcely possible to imagine any means of obtaining information concerning the climate of any portion of the United States which is more

perfect than the maps which are now prepared by Dr. Denison. We doubt if there are half a dozen climatologists in the Union who could give as much information concerning their own locality as could be obtained from these maps. They might be accurately termed "weather calendars." The Annual Map shows the cloudiness, the temperature, rainfall, direction, velocity of winds, and the comparative windiness, elevations above the sea level, ranges of temperature, relative and absolute humidities, the dew point, and the vapor tension.

The Seasonal Maps show the combined humidities, isotherms, wind-arrows, and seasonal tables. It would be impossible, in a short notice, to show the importance of these items for the physician who is consulted as to the selection of a health resort; but it should suffice to say that one who is ignorant of their importance is as unfit to give advice on this subject as the man who has never studied materia medica and therapeutics is to write a prescription for medicine. To say nothing of their value as sources of information, these maps are the greatest savers of time that one can well imagine; data may be obtained at a glance which would otherwise involve hours of reading, even if the material for the reading could be found.

Dr. Denison has commenced work in a mine which is far more valuable than any of those subterrestrial which have been opened in his native state; for it is a mine which includes the whole of this vast extent of country. The amount of labor that must have been expended upon the preparation of these maps is simply immense. Not only the profession, but the people, both of this country and of those across the waters, owe Dr. Denison a debt of gratitude for his painstaking care and accurate work; and we can but hope that the former, at least, will show their appreciation of his valuable contributions to a much neglected, though vastly important subject. Every physician who has reason to suppose that he will ever send a patient to a health resort should have one of these maps in his office.

ASSOCIATION ITEMS.

REGISTRATION AT THE ASSOCIATION MEETING.

We have received the following notice regarding the registration of members and delegates at the next meeting of the American Medical Association:

Members will be registered in the Medical Department of the Tulane University, of Louisiana (Common street, between Baronne and Dryades streets), and adjacent to Tulane Hall, where the general meetings will take place.

Registration will begin on Monday, April 27, and the hours will be from 9 A.M. to 1 P.M., and from 4 to 6 P.M., daily. In the registration room there will be four desks — one for registering all names from A to E; a second, F to L; a third, M to R; and a fourth, S to Z.

STANFORD E. CHAILLÉ.

RAILROAD FACILITIES TO THE ASSOCIATION MEETING.

Members and other physicians who anticipate starting from Chicago, or going via Chicago, who are desirous of going on the special limited express train of Pullman Palace Cars that will leave Chicago on the Illinois Central railroad, Saturday evening next (April 25), at 9 o'clock, had better secure their berths at once, to better facilitate the management in Chicago of providing sufficient sleeping-car accommodations, as we understand that excursions from other points will make close connections with this train at various places along the route. The coming meeting in New Orleans gives promise of being an eminently successful one, judging from the number of papers that have already been announced. An unusually large delegation of Chicago physicians have signified their intention of attending this meeting. Among the number will be twenty-eight delegates from the Chicago Medical Society, several of whom will be accompanied by ladies. It may be well to state again that living expenses in New Orleans vary considerably, but the prospects are that all will be amply provided for at a reasonable rate, at places that are convenient to all portions of the city, and where sleeping rooms, with breakfast, may be had. The rest of your meals may be procured down town, or at the Exposition, or elsewhere, as fancy and convenience should suit you. The fare for the round trip from Chicago to New Orleans on this train will be $20 for tickets good for fifteen days, or $25, with the tickets limited to forty days, with stop-over privileges on returning, etc., etc. The sleeping-car fare is $6 for a double berth, or $12 for a section.

For further information regarding rates and berths, apply at the ticket office of the general northern passenger agent, Illinois Central Railroad Company, No. 121 Randolph St., Chicago.

NECROLOGY.

JAMES LAWRENCE LITTLE, M.D.

Our regret in announcing the death of this well known surgeon is but the forerunner of that which will be felt by those who will subsequently read of his death. He died very suddenly, on April 4th, of peritonitis, induced by perforation of the vermiform appendix.

James Lawrence Little, M.D., was born in Brooklyn, in February, 1836. While studying medicine he was a private pupil in the office of the late Prof. Willard Parker; and he received his degree in medicine from the College of Physicians, of New York, in 1860, after having previously served in the Bellevue Hospital for six months as Junior Assistant Physician. Imme-

diately after receiving his degree he was appointed Interne to the New York Hospital, on the surgical staff, and served for two years — the regular term at that time. On leaving this hospital he entered the military service, and was at once appointed Surgeon-in-charge at the Park Barracks, which consisted of a number of wooden structures hastily fitted up as a refuge for sick and wounded soldiers passing through New York to or from the seat of war. Three years after graduating he was appointed first surgical clinical assistant in the College of Physicians and Surgeons, being thus placed under his former preceptor, Dr. Parker. This position he held for several years with great credit to himself and to the manifest advantage of the clinic.

In the following spring he delivered a course of lectures in the college on "Fractures and their Treatment." These lectures were delivered annually until the spring of 1868, when the regular summer faculty was formed, and he was appointed lecturer on Operative Surgery and Surgical Dressings, which position he held for more than ten years. Meanwhile he had commenced practice in the city, and was soon engaged in a large surgical practice. It was not long before he was appointed one of the surgeons to St. Luke's Hospital; and shortly after that a like position in St. Vincent's Hospital. In 1875 he was offered the Chair of Surgery in the University of Vermont; this was accepted, and the subsequent success of this department of the university is largely due to his personal efforts and influence. In 1882 he was largely instrumental in organizing the New York Post-Graduate Medical School, in which he occupied the position of professor of surgery. Besides these positions, he was consulting surgeon to the Mary Fletcher Hospital, at Burlington, Vt., and was a member of the American Medical Association (permanent), of the New York State Medical Society (permanent), a Fellow of the New York Academy of Medicine, member of the Medical Society of the county of New York, of the New York Pathological Society, of the New York Surgical Society, of the Northwestern Medical and Surgical Society, and of the New York Physicians' Mutual Aid Association.

Though Dr. Little wrote but very seldom for a surgeon of his ability and experience, what he wrote was valuable, and commanded the respect of his readers. His publications were confined almost exclusively to the periodical press. Possibly his earliest, certainly his most important paper, was the one published in 1861, describing a new method of treating fractures by means of the plaster-of-Paris splint, the method which has been so extensively adopted since that time. It was afterwards enlarged, and republished and circulated by the Sanitary Commission. This paper was published while he was yet a hospital interne, and it will probably be by it that he will be best remembered. He was an acknowledged authority on lithotomy, especially the median operation, having performed it more frequently, perhaps, than any surgeon in America. It was upon the subject of Median Lithotomy that he wrote one of his most important papers. There were many points in Allarton's median operation that he simplified. Possibly the most brilliant operation that he performed was a simultaneous ligation of the subclavian and carotid arteries of the right side for aneurism of the first portion of the subclavian. The account of this operation was published in 1878, in the *Hospital Gazette*. The list of his papers includes "Puncture of the Bladder by Dieulafoy's Aspirator," 1872; "An Excision of the Lower Jaw," 1873; "A Case of Naso-pharyngeal Tumor," 1876; "A Modification of Lister's Antiseptic Dressing," 1881; "Five Successful Cases of Tracheotomy for Croup," 1883; "Operation for Restoration of the Lips," 1883; and a "Case of Hypospadias," 1883.

As a surgeon Dr. Little was regarded as exceptionally successful; indeed, he was spoken of by his colleagues as a "lucky" surgeon; but it is questionable if the element of luck played any part in his success. He was a thorough anatomist, a keen observer, possessed of unusual "common sense," and was a master of his chosen field of medicine. His reputation as a teacher and a lecturer was second only to his ability as a good surgeon.

After the second battle of Bull Run he offered his services to the government at Washington, and was assigned to the charge of a temporary hospital in that city. Subsequently he responded to a call of the governor of his native state, and was assigned to field work in Virginia. In the spring of 1864, when the Citizens' Association of New York instituted the sanitary reform, he was appointed one of the inspectors. His report on the condition of the Twenty-first Sanitary Inspection District was very able, and was embodied in the report of the Council of Hygiene of the association; and it is to this, in great part, that New York city owes its present Board of Health.

MISCELLANEOUS.

THE SURGERY OF THE KIDNEYS.—HENRY MORRIS, M.B., Surgeon to the Middlesex Hospital, recently opened the discussion on the surgery of the kidneys, before the Medical Society of London, by considering (A) the symptoms which should guide us with respect to surgical treatment, (B) which of the operations is best adapted for particular cases, and (C) as to how we can most safely and certainly find out the working power of the second kidney. In answer to the first question, A, he lays down the following propositions:

1. Although hæmaturia, associated with frequency of micturition and a small amount of pus in the urine, is, in the absence of disease in the lower urinary tract, strong evidence in favor of

renal calculus, yet pain, either in the loin, groin, or testicle, of one side, is also needed to justify the surgeon in exploring the kidney through the loin.

2. Pain alone, when persistent, or frequently paroxysmal, and giving rise to sickness and sweatings, or subject to exacerbations during perfect rest, justifies lumbar exploration. When there is a history of hæmaturia without pus, or a trace of pus without a history of hæmaturia, associated with one-sided pain, the exploration ought to be made if alkaline treatment have failed.

3. When the above symptoms occur in persons with acid urine, or of gouty tendency, or who lead sedentary and indulgent lives, alkaline treatment and diet ought to have a prolonged trial before proposing an exploratory incision.

4. When the urine is alkaline from carbonate of ammonia, and not from fixed alkali, the alkaline treatment should be tried, on the ground that urine, very acid when secreted, irritates and inflames the mucous membrane, and so causes the alkalinity which is found when the urine is discharged from the body.

5. Under certain circumstances, an abdominal exploration in search of calculus is justifiable when there is nothing to specialize which kidney is the seat of the stone.

6. If strumous, not calculous, kidney causes the above symptoms, the lumbar incision of the kidney may give great relief by affording exit to pent-up pus. An exploratory incision, under these circumstances, is a very advantageous thing.

7. Under the circumstances previously stated, digital exploration of the bladder in search of calculus in the ureter ought to be made; and, if a stone be found in the vesical orifice, it ought to be removed.

8. Removal of a calculus impacted in the ureter, by intra-peritoneal urethrotomy, is feasible, and in certain cases ought to be practised.

9. Exploration of the kidney should not be considered complete till incision of its substance has allowed of the thorough examination of the calyces; and nephrectomy for calculus, in kidneys not disorganized, ought not to be entertained until after free incision of the kidney and digital exploration of the bladder have failed to disclose the calculus.

10. Exploration of the bladder, in the female certainly, and in the male generally, ought to be made before nephrectomy is resorted to for hydronephrotic and pyonephrotic tumors.

11. A stone in one kidney will sometimes excite sympathetic pain and irritation in the opposite one; but this transferred pain is of an aching character, not spasmodic or colicky, and it should not deter the surgeon from exploring when there is well marked and frequently recurring pain in the opposite loin.

12. Experience suggests that after lumbar exploration of the kidney the patient should keep on his back, and a well adjusted compress should be placed on the abdomen over the front of the organ explored; as there is, though rarely, a tendency for the kidney to fall away from the loin, and delay the completion of the healing of the wound.

The other questions he considers in a discursive manner, and has not distinctly formularized any propositions regarding them.—*British Medical Journal*, February 14, 1885.

DIVERTICULUM IN FEMALE URETHRA.—PROF. SANTESSON, of Stockholm, has described, in the *Nordiskt Mediciniskt Arkiv*, a case in which a pouched condition of the urethra caused severe symptoms. The patient was a middle-aged widow, who, after a confinement, suffered from difficulty in micturition. At the end of twelve years this symptom had become very troublesome, and a large swelling filled the vagina whenever she passed urine. A catheter could be introduced up the urethra, and through a circular orifice into the swelling, and then urine mixed with mucus escaped as the swelling collapsed. When, on the other hand, the swelling was pressed firmly by the finger introduced into the vagina, it emptied into the bladder, this manipulation always causing great pain. If the patient were prevented from voluntary micturition, for which she felt a desire almost every hour of the day, the bladder emptied itself by a painful, spasmodic contraction. After cauterization of the urethra, and the removal of three small vascular growths, the patient enjoyed comparative comfort for two years, when the sudden, involuntary action of the bladder became very frequent. The vaginal wall of the diverticulum was destroyed by caustics. After the separation of the eschar, and healing of the wound, the circumference of the diverticulum was reduced by half. For two years the patient remained free from incontinence of urine and frequent desire to micturate; then these distressing symptoms recurred. The remainder of the vaginal wall of the diverticulum, including the cicatrix, was excised, and the edges of the wound united by sutures. The wound partially sloughed, and did not heal completely for five weeks. The diverticulum was now reduced to a mere digital depression, and relief remained complete for four years, when the diverticulum again increased in size, and all the bad symptoms returned. The patient suffered from nephritis, cystitis, and dilatation of the urethra, the walls of which were also œdematous. A syphilitic rash was discovered on the trunk and extremities. She was, in fact, in a state quite unfit for any operation, and was sent to an infirmary, where she died two years later, having suffered for about twenty-two years from the diverticulum, excepting during the intervals of relief due to the operations. Dr. Santesson felt inclined to attribute the origin of the diverticulum in this case to damage of the urethral walls during protracted labor.—*British Medical Journal*, Feb 14, 1885.

HEALTH MATTERS IN CHICAGO.—Health Commissioner DeWolf, of Chicago, has recently sent the following instructions to the Sanitary Inspectors: Each officer will be held responsible for the sanitary condition of his ward to this extent: He must see to it that the owners or agents of all vacant lots, house yards, areas under sidewalks, and privy vaults which need cleaning are notified by proper order to perform the work, and if they fail he must see to it that all legal processes are taken to oblige them to do so. If, after such notice and suit, he still fails to secure the cleaning required he cannot be held responsible; but unless he can show such notice and suit after proper time, all complaints against filthy premises in his ward will be counted against the officer and will be the guide to his retention in his position. Officers will be held responsible for the work done by the scavengers under their control, and if detectives show that scavengers are lingering in saloons, or making short time, or failing in any way to perform their duties for which they are paid, and the officer is not reporting such failure, such officer will be discharged from the service. During the summer months officers are expected to be on duty in their wards from 7 o'clock A.M. until the time for reporting at the health office, except one hour for dinner; and any officer absenting himself from this duty, unless called by official work or by permission from the Commissioner of Health, will be required to explain such absence.

THE INHALATION OF DEFIBRINATED BLOOD.—In view of the bad results which follow the ordinary methods of transfusion of blood, and of the great tolerance of the respiratory organs to foreign fluids, and the rapid absorption of the latter, Professor Fabrini, of Palermo, calls attention, in the *Centralblatt für die medicinische Wissenschaften*, No. 9, 1885, to what may be termed pulmonary transfusion. The fluid employed consists of twenty parts of bullock's blood and eighty parts of a three-fourths per cent. watery solution of chloride of sodium, in which the red corpuscles preserve their normal properties for a long time. Inhalations of about three ounces and a half of the mixture, through the medium of an ordinary spray apparatus, do not excite coughing, nor do they bring about any perceptible alterations in the circulation, respiration, or the temperature, and auscultation shows that the mixture is rapidly absorbed.

Fabrini has resorted to this novel method of transfusion in cases of oligæmia with the best results, as indicated not only by the improvement in the general condition of the patient, but also by the increase in the relative number of the red corpuscles, and in the quantity of hæmoglobin. These results are stated in a general way, and not supported by details of cases. Hence, more extended trials will have to determine the value of the method.—*Medical News*, April 4, 1885.

MALFORMATION OF THE KIDNEYS.—MM. BOURNEVILLE and BRICON report the following curious malformation of the kidneys, occurring in the body of an idiot whose body was examined after death from tuberculosis:

The ureters were dilated to the size of a large goose-quill, the dilation being more pronounced at the upper part. The pelves were also very much dilated. The kidneys were found to be united at the lower extremities. They were directed from above downward, from behind forward, and from without inward. Their upper extremities corresponded to the junction of the first and second lumbar vertebræ, and the general appearance of the two organs was not unlike that of a horseshoe, the middle of which rested upon the intervertebral disk of the fourth and fifth lumbar vertebræ. The kidneys seemed to have undergone a sort of rotary movement, which had carried the hilus forward. The two ureters descended obliquely, passing the anterior part of the horseshoe about two mm. from the median line, leaving their impression at this point. The decortication of the kidney, which was not lobulated, was easily done. A few stars of Verheynn were found at the surface. On section, the organ appeared normal. The pelves were filled with a kind of magma. The total length of the horseshoe was twenty-three cm. There were also anomalies of the arteries and veins in this subject.—*Progrès Médical*, March 7, 1885.

TREATMENT OF SPRAINS.—According to M. MARC SÉE there are two indications in the treatment of sprains: 1, To provoke rapid absorption of the fluid effused around and within the joint; and 2, to favor cicatrization of the torn parts by immobilizing the articulation. Now, the modes of treatment hitherto in vogue do not fulfil these two indications. Massage would seem to present some real advantages, but it can be of little service in the case of severe sprains, and mild injuries would probably do as well under rest alone. M. Sée advises an elastic bandage, the depressed parts being covered with a layer of cotton so as to prevent too great pressure over the prominence, and thereby causing sloughs. This bandage acts like massage in promoting absorption, and also secures immobility of the joint. It is of equal service in sprains complicated with rupture of points of insertion, whereas massage would be productive of harm in cases in which splinters of bone were torn away.—*Revue Médicale*, January 31, 1885.—*The Medical Record*, April 4, 1885.

SUBCUTANEOUS URETHROTOMY.—In a letter of Dr. Eugenio Casati, from Vienna, to the *Raccoglitore Medico* of February 28, 1885, is described DITTEL's method of performing urethrotomy. It may be called subcutaneous external urethrotomy. A large grooved sound is first introduced and passed down to the seat of the stricture, the

groove looking toward the posterior part of the urethra. Then a rather slender tenotome is introduced beneath the skin and passed down until the point engages in the groove of the sound, when it is driven forward, cutting the stricture from within outward. The writer states that the operation has given excellent results in Dittel's hands, but it is one that requires some skill, since it is performed, as it were, in the dark, and the operator can be guided by the sense of touch alone.—*The Medical Record*, April 4, 1885.

THE ASSOCIATION OF AMERICAN MEDICAL EDITORS.—Annual meeting, New Orleans, La., April 27, 1885. The annual meeting of the Association of American Medical Editors will be held in New Orleans, La., April the 27th, at 8 P.M.. in the Medical College Building. The annual address will be delivered by the president, Henry O. Marcy, M.D., of Boston, Mass., on "The Legislative Establishment of Medical Examining Boards in America." Papers are expected from Dr. F. E. Daniel, of Austin, Texas; Dr. F. S. Billings, Boston, Mass.; Dr. Richard J. Dunglison, Philadelphia, Pa.; Dr. John V. Shoemaker, Philadelphia, Pa.; Dr. L. Connor, Detroit, Mich., and others. All members of the profession are cordially invited to be present and participate in the meeting, especially journalists and authors.

H. O. WALKER, M.D., Secretary,
33 Lafayette Ave., Detroit, Mich.

SICKNESS IN THE EGYPTIAN ARMY.—General Lord Wolseley has sent to the war office a significant report made out by the medical staff attached to the Khartoum expedition. The subject of this report is the result of the exposure to the desert heat, of the British troops stationed along the borders of the Soudan desert. The report states that if the present British military station in the Soudan be maintained, fully one-half of the troops will die or be disabled by the heat before the arrival of autumn.—*The Medical Record*, April 11, 1885.

THE MEDICAL ASSOCIATION OF THE DISTRICT OF COLUMBIA elected officers for the ensuing year, on the 7th inst., as follows: President, Dr. D. C. Patterson; Vice-Presidents, Drs. A. F. A. King and J. O. Stanton; Secretary, Dr. Lachlan Tyler; Treasurer, Dr. S. S. Adams; Board of Counselors, Drs. J. W. Bulkley, J. W. Lovejoy, W. H. Taylor, J. T. Johnson, C. W. Franzoni, C. E. Hagner, E. C. Morgan, J. F. Thompson, and G. B. Harrison. Board of Censors, Drs. T. C. Smith, W. C. Briscoe, and J. H. Mundell.

CHOLERA IN SPAIN.—Dispatches from the Continent state that cholera has appeared on the western coast of Spain. It first appeared in the province of Valencia, but has extended thence to other portions of the country, to the Balearic Islands and to Malaga. There are indications that the whole sea coast will be soon infected.

RICE AS A STYPTIC.—Powdered rice as a styptic remedy has a great effect on fresh wounds, much superior to oxide of zinc. By mixing from four to eleven per cent. of it with lint, and using the lint thus treated as a compress, it is very effectual and more valuable than subnitrate of bismuth, salicylic acid, or carbolic acid.—*Dublin Jour. Med. Science.*

QUARANTINE AT MARSEILLES.—On account of the appearance of cholera in Spain, a three days' quarantine has been ordered at Marseilles on all vessels shipping from Spanish ports.

SIR HENRY THOMPSON'S NOVEL.—The *Lancet* states that the rumor is true that "Pen Oliver, F.R.C.S.," the author of the novel "Charley Kingston's Aunt," is Sir Henry Thompson.

DR. BILLINGS' LECTURES IN COLUMBIA COLLEGE.—It is stated that Dr. John S. Billings has been invited to extend his course of lectures on Hygiene from twelve to twenty lectures.

THE REGULATION OF VETERINARY PRACTICE.—A bill has been introduced into the New York assembly to regulate the practice of veterinary medicine; it is said that it is likely to pass.

THE INDIANA STATE MEDICAL SOCIETY will hold its next annual session in Indianapolis, on the second Tuesday in May, and will continue for three days.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE WEEK ENDED APRIL 11, 1885.

Bailhache, P. H., Surgeon. Chairman of board for physical examination of candidates for appointment as Assistant Engineers, Revenue Marine Service, April 6, 1885.

Vansant, John, Surgeon. Chairman of board for physical examination of officers of the Revenue Marine Service, April 11, 1885,

Purviance, George, Surgeon. Granted leave of absence for one week, April 6, 1885.

Stoner, G. W., Surgeon. Member of board for physical examination of candidates for appointment as Assistant Engineers, Revenue Marine Service, April 9, 1885.

Godfrey, John, Surgeon. To represent Service at annual meeting of American Medical Association, April 11, 1885.

Goldsborough, C. B., Passed Assistant Surgeon. To proceed to Pascagoula, Miss., as inspector, April 8, 1885.

Carter, H. R., Passed Assistant Surgeon. Member of board for physical examination of officers of the Revenue Marine Service, April 11, 1885.

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